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BusinessWeek

SEPTEMBER 5, 2005

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DRUGS GET SMART

How new medicines
will more effectively
target what ails you
—and help prevent
another Vioxx

BY KERRY CAPELL AND
MICHAEL ARNDT (P.76)



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GETTING PERSONAL

The day of one-size-fits-all remedies may be ending. New tests will let doctors pick drugs based on each patient's DNA



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Rocketboom
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76 Drugs Get Smart

New treatments will allow doctors to screen patients' DNA and discover what diseases they are prone to and which remedies might work best. This shift to drugs tailored to a specific genetic profile will radically transform medical care, help prevent widespread side effects, and vastly reduce the risks of another Vioxx

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BusinessWeek (ISSN 0007-7135) Issue number 3949, published weekly, except for one week in January and one in August, by The McGraw-Hill Companies, Inc. Executive, Editorial, Circulation, and Advertising Offices: 1221 Avenue of the Americas, New York, N.Y. 10020. Periodicals postage paid at New York, N.Y., and at additional mailing offices. Canada Post Publication Mail Agreement Number 40012501. Return undeliverable Canadian addresses to: DPGM Ltd., 2-7496 Bath Road, Mississauga, ON L4T 1L2. Email: bwkcustserv@cdsfulfillment.com
Postmaster: Send address changes to BusinessWeek, P.O. Box 8418, Red Oak, IA, 51591-1418.

(COVER) DIGITAL ILLUSTRATION BY DAVID RUDES/BW AND JOE CALVIELLO/BW;
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www.businessweek.com
America Online Keyword: BW

UP Front

“This will be her opportunity to give her account of what happened.”

—Penguin Group USA spokesman Will Weissner, on ousted HP CEO Carly Fiorina's deal to write a memoir, due out in fall 2006

EDITED BY DAN BEUCKE

PC PATROL

DELL FINDS ITSELF IN BLOG HELL

PC INDUSTRY circles have been buzzing for months about slipping customer support at Dell, a claim bolstered on Aug. 16 by a University of Michigan study that showed a hefty drop in customer satisfaction from a year ago. So the last thing Dell needed was for someone to turn the issue into a cause célèbre.

Enter Jeff Jarvis. Over the summer the media critic and popular blogger began writing on his personal blog, BuzzMachine, about his lengthy quest to fix a \$1,600 computer, an ordeal that, according to him, included countless e-mails, some unanswered, and phone calls to Dell's service line. Jarvis wrote that he bought a service package that included in-home repairs, but when the PC overheated and malfunctioned, he was told to

send it in. He did—and wrote that it still wasn't working upon return. Jarvis launched a series of attacks, including an Aug. 17 open letter to CEO Michael Dell: “The bottom line is that a low-price coupon may have gotten me to buy a Dell, but your product was a lemon, and your customer service was appalling.” On Aug. 22, Jarvis finally got a refund. A day later he



DELL A critic calls service “appalling”

blogged that Dell's new policy of tracking down unhappy bloggers “is a start.”

Jarvis' rants struck a chord with other Dell customers. Daily visits to BuzzMachine have doubled, to over 10,000, estimates research firm Intelli-

seek. Among the responses: “Dude, get an Apple.” Dell (page 90) is adding more call centers and improving training for phone reps, says consumer chief John Hamlin. As of Aug. 24, Dell had not replied to Jarvis' open letter but says it is “happy to talk with him as a customer.” That might yield a happy ending—if he doesn't get put on hold. —Louise Lee

THE BIG PICTURE

HOUSE POOR Nearly one in five California home buyers spends at least half of income on housing

HOUSEHOLDS SPENDING MORE THAN 50% OF INCOME ON HOUSING IN 2003*

CALIFORNIA

REST OF U.S.

0 5 10 15 20%



*Pretax household income compared with costs of mortgage, real estate taxes, insurance, utilities, fuel, mobile home costs, and condo fees

Data: Public Policy Institute of California analysis of U.S. Census Bureau data for homeowners of less than two years



SMOKE SIGNALS

That Cool Draw May Be Deadlier

MENTHOL EVOKES smooth refreshment, but for African American smokers, it may be lethal. Researchers have long puzzled over why black male smokers are 30% more likely to develop lung cancer and die from it than are white men, even though they smoke fewer cigarettes. New Harvard research points the finger at menthol cigarettes, which are favored by more than 70% of black smokers. Scientists at the **Harvard School of Public Health** analyzed the menthol in several brands and found much more had been added to those cigarettes labeled as light or ultralight. Because menthol is a numbing agent, they said, the high levels may lead to deeper inhalation.

That helps explain earlier studies showing smoking-cessation programs are least successful for black menthol smokers: They may draw in more addictive substances along with menthol. Gregory Connolly, a Harvard professor and lead study author, says that while “smokers may believe the term ‘light’ implies a reduction in disease risk, this is not true, and menthol may be playing an important role in this misperception.” The study appears in the August issue of *Nicotine & Tobacco Research*.

—Catherine Arnst

PETROL PATROL

THIS BIG POOL IS JUST ABOUT FILLED UP

SABOTAGE in Iraq, an oil workers' strike in Ecuador, storms in the Gulf of Mexico—there's little good news in energy markets. That helps



explain why oil hovers around \$65 a barrel. But one source of price pressure could ease: The feds will soon finish filling the Strategic Petroleum Reserve.

TEXAS Filling the Strategic Reserve

The reserve, set up in '75 to guard against major oil supply disruptions, should hit its target of just over 700 million barrels in early September. The **Energy Dept.** has been filling the salt caverns under Texas and Louisiana since President George W. Bush ordered a big boost after 9/11. Recent purchases averaged 80,000 barrels a day—a trickle compared with U.S. daily consumption of 20 million barrels. But the purchases represent a good chunk of the world's 1.5 million barrels of spare capacity, says **Deutsche Bank** analyst Paul Sankey. The latest energy legislation mandates a boost in the reserve to 1 billion barrels, but no money has been allocated for it.

—Christopher Palmeri



MEDIA MANIA

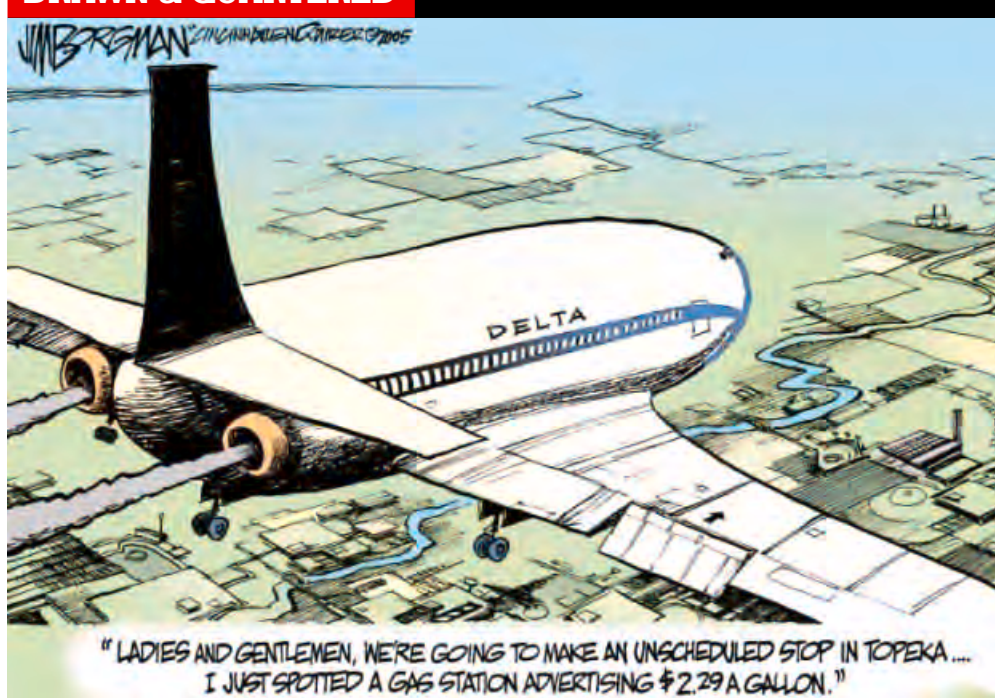
JAPAN Throughout August, 133 Japanese TV stations are airing commercials to promote the importance of...commercials. Japanese advertisers, like those in the U.S., worry about growing use of digital video recorders, now in 15% of Japan's homes. By letting users skip ads, DVRs have knocked \$489 million off the value of commercials to advertisers, says the Nomura Research Institute. **To win back viewers**, the National Association of Commercial Broadcasters in Japan named Aug. 28 TV CM (commercial) Day. In one spot, singer Aya Matsuura works a puppet that says, "Commercials are fun, aren't they?" adding, "It's ventriloquism, so of course I'm made to say so." Viewers, of course, may skip these ads, too. —Hiroko Tashiro

LOVE LORE

CAN CUPID'S ARROW HIT A RUNNER?

A CHICAGO running-gear store has a new angle on speed dating. In an Aug. 17 promotion, 30 couples ran half-mile loops in a park before switching partners. After huffing through five moving mini-dates each, everyone adjourned to a bar for more spontaneous mixing. The runs themselves proved revealing. One guy told his partner he'd have to slow down to avoid leaving her in the dust. "Instant turn-off," says Cori Mack, 29, a physical therapist training for a marathon. The shop, **Momentum**, expects to stage a repeat in the spring. —Joseph Weber

DRAWN & QUARTERED



(CLOCKWISE FROM TOP RIGHT) KAKU KURITA/GAMMA; (CARTOON) JIM BORGMAN/ THE CINCINNATI ENQUIRER/KING FEATURES SYNDICATE; JOE RAEDLE/GETTY IMAGES

FACE TIME

JONATHAN KARP



'MASSIVE' ATTENTION FOR AUTHORS

When Jonathan Karp resigned as editor-in-chief of Random House in June, there was speculation that he was leaving book publishing altogether. But Karp, 41, says he just wanted to follow a long-held belief that "talented authors deserve a massive amount of attention." As publisher and editor-in-chief of new imprint Warner Twelve at Warner Books, he can do just that. As the name suggests, Warner Twelve will release just 12 books a year (starting in spring, 2007), with Karp personally editing each. In an industry that issues 200,000 titles annually, he's hoping to produce one-of-a-kind works that cut through the noise. "By promising authors and their literary agents that we will publish nothing other than their books for a full month, we're saying... we will do everything we can to make people pay attention to you."

During his 16 years at Random House, Karp edited a string of best-sellers, including *Seabiscuit* and *The Orchid Thief*. Now he just needs to find another dozen winners. —Elizabeth Woyke

POST 9/11

GETTING TOUGHER ON PASSPORTS

A WELTER of new U.S. passport rules are wreaking havoc with the travel plans of some Europeans. On June 25 a little-known rule kicked in requiring all travelers, including children, to carry their own machine-readable passports to enter the U.S. Previously, young children could in some cases travel on their parents' passports. The change—part of the Patriot Act—applies to 27 countries in the Visa Waiver Program, including Britain, France, and Germany. "We feel very, very disappointed, angry [and we're] sorry for the ones we were supposed to meet," says Marie-Hélène Hémon, a French citizen who was



SNAPPED
A photo on arrival

turned away at a Paris airport, from which she planned to fly with her two children to the U.S. for a two-week vacation. The Hémon family lost \$3,700 worth of plane tickets through the mishap.

A case of post 9/11 overkill? The **State Dept.** says the requirement makes the U.S. safer and helps prevent child abductions. In the next two years, the U.S. will tighten rules in at least three different ways for countries

in the Visa Waiver Program. Philippe Laloue, secretary general of a trade group representing 1,300 French travel agents, says the U.S. could do a better job of communicating changes. U.S. embassies sent out press releases and held round tables with airlines. "You don't want people pissed off because they can't get on a plane," says the State Dept.'s Angela Aggeler. But she concedes that the agency unfortunately can't reach everybody. —Spencer Ante

NET EFFECTS

I PAGLIACCI FOR THE IPOD SET

BEETHOVEN MAY soon find himself in the iPod Shuffle mix beside 50 Cent and the Black Eyed Peas. On Sept. 7 the largest independent U.S. distributor of classical music, **Naxos of America**, plans to sign a deal to allow the **Independent Online Distribution Alliance (IODA)** to digitize Naxos' 70,000-track catalog of symphonies and operas, making hard-to-find files accessible to more Internet consumers.

Naxos already has deals to sell music through

iTunes, Napster, and Rhapsody.

However, the complexity and length of classical pieces means that fitting a lengthy Mahler symphony into one audio file is like "trying to fit a basketball through a garden hose," says Naxos President Jim Sturgeon. "There are just too many movements to download it the way you would a five-minute pop song."

New software will digitize

Naxos' tracks more efficiently so that pieces can be found by artist, title, and genre. That is how listeners search the music networks, where classical tunes now account for as little as 2% of the available downloads.

—Paula Lehman



THE STAT

2

The percentage of U.S. households that visit blogs once a week or more.

Only 6% report ever reading a blog. Other surveys show use is higher—up to 30%—for regular Internet users.

Data: Survey of 68,664 North American households conducted by Forrester Research

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Even the most sophisticated monitoring systems are only as adept as those who are managing them.”

—Ira A. Lipman
New York



THE STATE OF SURVEILLANCE: TOO MUCH DATA?

“THE STATE of surveillance” (Cover Story, Aug. 8) concentrated on sensors, but we also need help analyzing all the data that these sensors generate. A simple example: The U.S. has 25 million security cameras and only 295 million people, which means that most of this video is not being carefully watched. Too much video is watched only after the fact. Better analysis might help us catch at least a few perpetrators before they get away.

—Wayne Wolf
Princeton University
Princeton, N.J.

WITH THE MEDIA and many public figures decrying the profiling of potential terrorists by any method, it is unlikely that the authorities will be able to utilize the new and potentially useful techniques to thwart attacks against our citizenry. It is hoped that the general public will realize that we are vulnerable and the safety that is threatened is ours, allowing the authorities to use all available tools to combat terrorism.

—Nelson Marans
Silver Spring, Md.

AS A NATION, we are increasing our reliance on new technologies in the war on terror. Even the most sophisticated monitoring systems are only as adept as those who are managing them. Too often, it is the human side of security that is overlooked. Already, billions have been spent and lost on technologies aimed at countering today's threats—only later found to be ineffective or unreliable.

Investments in sophisticated technology must be augmented by the selection of people who can respond to security threats quickly and effectively. Society looks to the security industry for protection, and we have a responsibility to educate the public about the necessity for constant vigilance. At the same time, the security industry faces an opportunity to grow and to elevate the reputation of the profession.

—Ira A. Lipman
Founder & Chairman
Guardsmark
New York

YOUR REPORT on the gadgetry for our impending [James] Bondage shows that we still don't really know what to make of the enormous data glut that results. We should recall East Germany, where the

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The McGraw-Hill Companies
BusinessWeek
SEPTEMBER 5, 2005 (ISSN 0007-7135)***** 3949

Published weekly, except for one week in January and one in August by The McGraw-Hill Companies, Inc. **FOUNDER:** James H. McGraw (1860-1948).
EXECUTIVE, EDITORIAL, CIRCULATION, AND ADVERTISING OFFICES: The McGraw-Hill Companies Building, 1221 Avenue of the Americas, New York, N.Y. 10020. Telephone: 212-512-2000. Telex: Domestic 127039; Intl. 2360127039. For single copy sales call 1-800-298-9867 or email: busweek@mrmsinc.com. Subscriber Services: 1-800-635-1200. TDD: 1-800-654-1579
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PRINTED IN THE U.S.A.

ReadersReport

CORRECTIONS & CLARIFICATIONS

In "China and India: What you need to know now" (Cover Story, Aug. 22/29), we misstated the number of listed companies in China. It is roughly 1,300, not 13,000.

In the table accompanying "Darker days at Daimler" (Cover story, Aug. 15) DaimlerChrysler's 2005 first-half operating profits for financial services were \$863 million, not \$589 million.

An "Et Cetera..." item (In Biz This Week, Aug. 15) should have read: "KKR, Five Mile Capital Partners, and Goldman Sachs bought a 60% stake in GMAC's commercial mortgage business" (not GMAC as a whole).

Stasi secret police became its largest industry and eventually overdosed on information, taking the country with it. All that's left: warehouses full of files. It is therefore more important for us that the FBI lacks hundreds of translators of Arabic and other languages and already can't cope with its backlog.

—John E. Ullmann
Hofstra University
Hempstead, N.Y.

RUNAWAY CEO PAY TAKES A TOLL ON CREATIVITY

THE JUXTAPOSITION of "Mr. McDonough, you have the floor" (Finance, Aug. 1) and "Get creative! (Special Report, Aug. 1) reveals the dilemma for many large organizations. The resentment of runaway executive compensation is sapping employees' creative energy, reducing stockholders' respect, and stimulating competition from foreign suppliers. As McDonough complains, outrageous executive compensation (even in companies doing poorly) is a major problem. Leaders such as Jeffrey R. Immelt at General Electric Co. would do well to put half their compensation into a fund that rewards employees who create valuable ideas that benefit their companies.

As one experienced in running a corporate idea program for many years, I can assure everyone that we haven't begun to achieve what the American workforce is capable of doing with desirable and fair leadership.

—Morley G. Melden
Monroe Township, N.J.

THESE B-SCHOOLS ARE ALSO STRONG ON DESIGN

GEORGE WASHINGTON University would have been a fair addition to "Tomorrow's

B-school? It might be a D-school" ("Get creative!" Special Report, Aug. 1). The GW full-time MBA program offers a Management of Science, Technology & Innovation concentration (MSTI), as well as elective courses that integrate technology and creativity into our marketing, management, and entrepreneurship programs.

—Ryan Fairchild
Arlington, Va.

NORTHWESTERN UNIVERSITY was slighted in not being recognized for its "D" school, now in its fourth year. The program includes the basics of the Kellogg MBA program combined with professional engineering classes from the McCormick School of Engineering & Applied Science, that were developed specifically for this program.

—Walter Herbst
Northwestern University
Evanston, Ill.

BIOTECH: PICKING THE RIGHT ROW TO HOE

"WHAT'S SO SCARY about rice?" (Science & Technology, Aug. 1) addressed well the

benefits of using plants to grow biotech drugs. Plants yield a huge amount of biomass compared with the ordinary vehicles of bacteria or mammalian cells and are much easier to purify than those vehicles. But the consequences of environmental complaints about cross-contamination seem to be huge hindrances to the particularly advantageous process of plant-based biotech.

Another way to accomplish the same result is to grow the plants indoors, hydroponically, or in plastic-bag bio-reactors. Although there is some additional cost, indoor biotech-modified plant growing protects both the biotech crop and other crops from cross-contamination, obviating environmental complaints.

—Howard D. Sterling
New York

IT'S A BIT DISINGENUOUS to characterize beer Goliath Anheuser-Busch Cos. as the injured party because of Ventria Bioscience's desire to plant genetically modified rice in Missouri. Let's put things in perspective. Anheuser-Busch uses rice to make beer. Ventria uses rice to make the



Hawker 400XP

Hawker 800XP

same health-promoting and life-saving proteins that every nursing infant receives from its mother. Ventria's rice will be used to prevent life-threatening infections in millions of infants, the elderly, and the sick around the world.

And what about those birds? Since no one has ever died (or even become ill) from eating genetically modified food, I'm really not very concerned about the possibility of a bird pooping a seed containing mother's milk proteins in my backyard.

—Raymond Rodriguez
University of California
Davis, Calif.

Editor's note: The writer is the founder and a former board member of Ventria.

MAKE ECONOMIC POLICY SERVE THE COMMON GOOD

THANK YOU, *BusinessWeek*, for placing Glenn Hubbard's "Happy 70th, Social Security" and Steven Rattner's "The rich get (much) richer" back to back (Viewpoint and Outside Shot, Aug. 8). As an Ivy League graduate with an income that places me above the 80% level, my personal experience is that a dynamic,

growth-oriented economy requires a stronger government-backed safety net, not a throwback to an era of rugged individualism. My recent job transition entailed six months on unemployment insurance that barely covered my COBRA health insurance premiums and multiple rejections by private insurers to offer alternative coverage for me and my family.

I am all for a dynamic and growth-oriented economy, and I believe in open labor markets and Social Security reform. But personal experience tells me that economic security policy must be built around a concept of the greater common good, which is absent in both Hubbard's arguments as well as most coming from Washington these days.

—Bob Hitchner
Ventura, Calif.

SECURITY—AND TRADE— AT THE CANADIAN BORDER

ON BEHALF OF Canadian Manufacturers & Exporters, Canada's largest trade and industry association, I am concerned that "A border transformed" (International Business, Aug. 1) creates an im-

pression that security at the U.S.-Mexico border is superior to that of the U.S.-Canada border. The U.S.-Canada border is more secure than ever. The management of the U.S.-Canada border is built on two centuries of collaboration and mutual trust, in contrast to the two centuries of frequently hostile feelings between the U.S. and Mexico that you cite in your article. Most if not all of the security and customs initiatives, technologies, and systems being undertaken at the U.S.-Mexico border originated at the northern border in partnership with Canadian industry and government authorities.

Border security and efficiency are dual strategic priorities at the U.S.-Canada border. They must be, because the trade relationship between the U.S. and Canada is the largest in the world. U.S.-Canada trade amounted to \$680 billion in 2004, with more than \$1.8 billion worth of goods and services crossing the border every day. That's \$1 million of business a minute.

—Jayson Myers
Senior Vice-President & Chief Economist
Canadian Manufacturers & Exporters
Ottawa

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The Next Tiny Thing

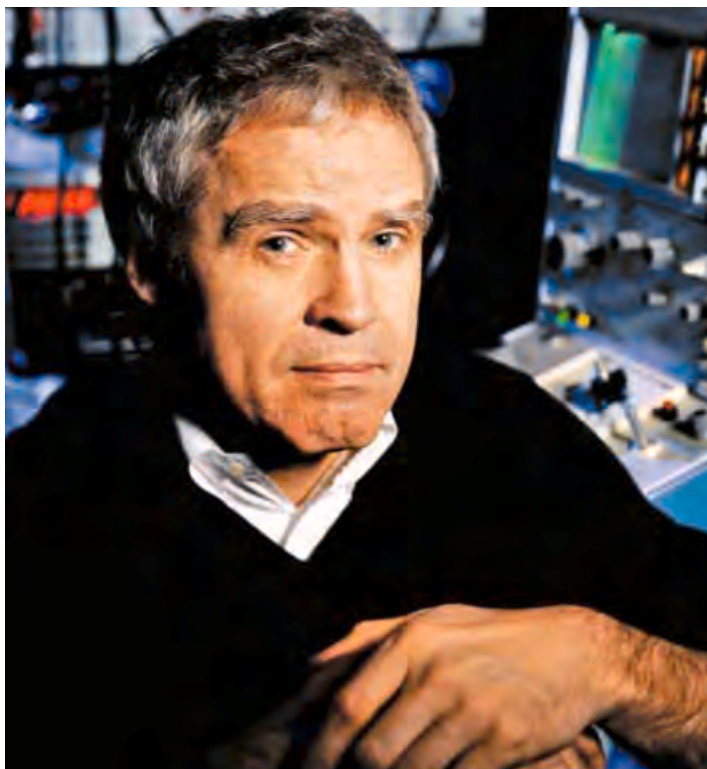
HORST STÖRMER KICKS back in his spacious office in Columbia University's new Nanoscience and Engineering Center. Out the window are sweeping views of uptown Manhattan and the campus where the Nobel laureate in physics is learning a new craft: chemistry. 🍷 "Biology never invented the copper wire," he proclaims.

"Electric signal transmission in your body and brain is terribly slow—really just a bucket brigade [of cells] passing ions along," he says. In contrast, electricity flows through the copper wire on computer chips at close to the speed of light. Yet, he adds, biology pulls off one thing that trumps humanity's best technology: Starting with just two cells, it builds people with complex brains that sparkle with creativity. Biology's chemical factory, he marvels, regularly pulls off wonders of self-assembly.

Combine those same powers of self-assembly with modern materials, and it could mean the Next Big Thing in the world of computing. That's the goal driving much of his work at Columbia's Nanocenter.

Under the guidance of Störmer, who is one of three directors, scientists are working to harness molecules' natural ability to bond and assemble—and organize into high-performance, nano-size transistors and sophisticated circuits that will make today's computer chips seem like simpletons. Finding the key to nature's self-assembly bag of tricks also promises to help end the need for billion-dollar chipmaking plants and shrink electronic chips down to the molecular level. That promise is why Störmer, at age 56, is venturing into the world where physics meets chemistry.

While a young scientist at Bell Laboratories in the late 1970s, Störmer pondered the mysteries of quantum mechanics—a realm of physics where subatomic particles defy classical rules and everyday logic. In 1981 he and fellow Bell Labs researcher Daniel Tsui were examining how electrons move through semiconductors under powerful magnetic fields and at extremely low temperatures. They



made a bizarre discovery: Electrons can lose their discrete charge and behave as a sort of fluid. The observation, which was explained in theory a year later by Robert Laughlin at Lawrence Livermore National Laboratory, led to new

understanding of the properties of subatomic particles. In 1998, the three scientists shared a Nobel prize in physics.

These days, Störmer is hoping to make a similar leap of discovery in the emerging field of nanoelectronics. If Moore's Law, which calls for computer power to double every 18 months or so, is to hold, just making transistors smaller will no longer be sufficient. For tomorrow's nano-size devices, the challenge is connecting them into functioning circuits. To illustrate the problem, Störmer holds up a pencil. If it were a molecular-sized transistor, attaching today's

skinny wires, he says, would be like tacking a truck on either end. So it's vital for connecting wires to self-assemble. But mimicking biology's secrets enters a "no-man's land" between chemistry and physics. In Störmer's group, chemists and physicists work side by side to understand how electricity travels through organic molecules, and then tease them to assemble into complex structures.

The center's work is in its early days. The team is still exploring various molecules to determine which are duds as semiconductors and which could be high-performance wonders, and why. "You've got the whole periodic table and all its possible combinations" for building candidate molecules, says Störmer. "At some point, somebody's going to come up with the molecule" that will replace silicon. Then the circuits for future computers and electronic gear will fall into place naturally, assembling themselves. ■

—By Burt Helm

PETER FREED



Technology&You

BY CLIFF EDWARDS

A Poltergeist in My Plasma TV

My \$5,000 LG plasma TV is haunted. And I'm not talking about "ghost" images you see on the screen even after the set is turned off. O.K., it hasn't yet started whispering "Get out," but it's malevolent nonetheless. In the two months that I've been testing it, the unit has confounded my every attempt to get it to work normally.

I had high hopes for LG's ambitious 50-inch plasma HDTV. The first big-brand television with a TiVo-like digital video recorder built-in, it relies on a 160-gigabyte hard drive and Gemstar-TV Guide software to record up to 14 hours of high-definition or 62 hours of standard resolution programming. With a mirror-like black finish and beveled edges, the set is a real head turner. A thoughtfully designed remote control—also in shiny black—completes the promise of good things to come.

THE LG 50PY2DR



For the first few weeks the LG set delivered. First, I plugged my Comcast cable into the TV as well as an antenna to pluck local digital TV signals from out of the air. Setup is simple and intuitive, taking about five minutes, though you have to wait overnight for eight days of *TV Guide* data to download. After that, at the touch of a button, the hard drive will store programming. I recorded episodes of *The Simpsons*, *The Amazing Race*, and *Family Guy*. The picture, of course, is as good as the signal—in this case delivering excellent color saturation and contrast with little need for fine adjustment.

THE HAUNTING BEGAN nearly a month into my tests. At 1 a.m., the set suddenly and loudly fired up—a disconcerting thing since it was set up in my bedroom. Worse, it refused to turn off, responding neither to the remote nor the off switch on the TV. With no choice, I unplugged the set, then plugged it back in. Nearly an hour later, though, the set burst into life again. For three nights running, I struggled with the same scenario—and lost each time. More frustrating yet, the *TV Guide* data stopped downloading, rendering the core digital video recording feature useless.

Acknowledging defeat, I called the tech gurus at LG. After a bit of hemming and hawing, they sent a flash memory card loaded with software aimed at fixing the problem. Apparently, early production models of the set suffered a software "memory leak." That means tiny errors in the programming replicated in ways that made the TV act unpredictably. Using

the picture-card viewer slot built into the set, I installed the software patch and hoped for the best.

It was not to be. The *TV Guide* data—which by then had not updated for a couple of weeks—yet again failed to download overnight. And after a lull of a week, the set began turning itself on again. An LG executive pointed out that most buyers of this set would simply install a CableCARD and use the built-in recorder, rather than plug in a DirecTV-TiVo and DISH personal video recorder, as I had done. But given that the set has connections for additional equipment, that should not have been a problem.

As a last-ditch effort to get the set working, I moved it out of the bedroom. Then I had a Comcast technician install a CableCARD to decode premium programming without the box. Voila! The *TV Guide* downloaded, and I could again use the digital video

LG's \$5,000 set worked for a month. Then things got weird

recording function. But like a bad dream, disaster struck once more. Both high-definition multimedia interfaces (HDMI) that I had used to connect DirecTV and DISH Network satellite boxes failed. When I plugged those same boxes into the component connectors, everything looked lime green, and no amount of picture adjustment changed that.

Finally, LG decided to replace the set. LG may either replace or repair a set under warranty, on a case by case basis. Five days into a review of the new set, everything works as promised—complete with all the other devices I had connected previously. No ghosts in the middle of the night. No green slime. Still, I'm not giving up my TiVo just yet. ■

BusinessWeek online

Steve Wildstrom is on vacation. For a collection of past columns and online-only reviews of technology products, go to Technology & You at www.businessweek.com/go/techmaven/

(TOP) PHOTOGRAPH BY ETHAN HILL



An Ugly Battle for the Clicker

If all goes according to plan, the next few years will bring an extraordinarily expensive battle for consumers' living rooms, as telephone companies spend billions to update their networks and leap into next-generation TV. ¶ Just underscore that phrase "if all goes according to plan." ¶ We are talking about rewiring the world, or at least a good chunk

of the U.S., and the telcos are girding for a very long war. The time frame may be a decade. The spending of just one major player—Verizon Communications—is expected to exceed \$15 billion.

Telephone companies have long tried to layer content businesses atop their networks, which go into virtually every home, with a notable lack of success. In the early '90s telcos made noises about running what were quaintly called "information services" over phone lines. Newspaper executives feared—seriously—that telcos would kneecap their plans to provide 900-number-style services, like, say, horoscopes. But telcos' efforts amounted to little, and one media trade magazine delicately noted that "readers used to getting their information for 50¢ or less are not easily persuaded to pay more than \$2 a minute for it on a telephone line." In the mid-'90s Pacific Telesis and BellSouth signed up content partners for first-generation interactive services—which sometimes meant operator-assisted database services. But despite some lovely names—R.I.P., Bell Atlantic brainchild Stargazer—none launched.

THAT WAS A SIMPLER, more innocent time, when forward thinkers routinely talked up the imminent potential of video-on-demand—while living in a 9600-baud, dial-up world. But even in a broadband world, telcos face ludicrously difficult terrain. They're entering a field full of established players—and, via satellite providers like DirecTV, established challengers—in a zero-sum market in which growth equals pilfering rivals' customers. Cable outfits such as Time Warner now offer cable telephony, speeding erosion of telcos' cornerstone business. Then there's the \$15 billion-plus Verizon has earmarked to rebuild its network all the way down to individual households, with fiber-optic lines to allow two-way interactivity. (If, like Verizon, your annual cash flow tops \$25 billion, that cost becomes less terrifying.)

Telcos need to lasso major programming sources—which they've begun doing—from HBO to broadcast networks, especially since they're counting heavily on video-on-demand.



Telcos are challenging cable to deliver TV, but if history is any guide...

senior vice-president of Starcom MediaVest, and can "create easily measurable and trackable platforms for advertising"—one attribute of Web advertising present-day TV cannot match.

But telcos' prospects would be more compelling if their earlier bids for next-generation media services hadn't failed so miserably. They're also uniquely ill-suited to attack cable's Achilles' heel: lousy service. As a pal likes to point out, no one pulls you aside at a cocktail party to say how much they love their cable or phone company. The battle for the living room may boil down to telco vs. cable, but don't expect either to win consumers' hearts. This fight is to see who is least despised. ■

E-mail: jon_fine@businessweek.com

Barring government or legal intervention, they must also win franchise rights in every municipality they wish to serve. (There are thousands in the U.S.) Established cable players are upgrading their networks as well. And telcos must wrap their collective brain around selling an entirely new service. All of this has to happen, more or less, right now. Verizon expects its redone network to be available to 3 million homes—around 10% of its current customer base—by yearend. But Deutsche Bank Securities analyst Viktor Shvets figures Verizon won't win 2 million subscribers to a TV/broadband/telephony package until 2008, and even then, the packages will be available to fewer than half of Verizon's present-day customers. Sound daunting yet?

Maybe not. One veteran cable executive says it's a mistake to assume customers can't be poached. Verizon plans to underprice cable, and next-generation technologies may open next-generation revenue streams. Souped-up TV platforms could give "tremendous advantages to the telcos," says Adam Gerber,



The Barker Portfolio

BY ROBERT BARKER

A Robot That Could Hit a Wall

Scooba may mean nothing to you today, but by the holidays, chances are you'll crave one. Scooba is a sibling to Roomba, the robotic vacuum cleaner beloved by reviewers—*BusinessWeek* recently gave it a design award—and consumers, who in three years have bought 1.2 million units. Scooba, set to go on sale this fall, doesn't

just pick up dirt. It also washes, scrubs, and dries tile, wood, or linoleum floors, all in one pass. Price: about \$399.

Roomba, Scooba, military vehicles called PackBots, and more; all are creations of iRobot, a Burlington (Mass.) outfit that in 1990 sprang from Massachusetts Institute of Technology. Scooba isn't all that iRobot is getting ready to sell. It's also preparing an initial public offering of stock to be led by Morgan Stanley and JPMorgan Chase. Key terms of the deal—price, amount of equity offered—have yet to be estimated, and iRobot execs are keeping quiet. So it's too early to judge whether the IPO is worth a bid. Just the same, iRobot's registration statement includes plenty of data for investors to suck up and crunch.

THERE'S LOTS TO LIKE about iRobot, starting with 19 U.S. patents and 25 more pending. Then there is its record of bringing to consumers the sort of robotics Chief Executive Officer Colin Angle helped install on the 1997 Mars rover Sojourner. It's also heartening that iRobot is diversified via its military-industrial robots. Sales of this line, including some of the \$50,000 to \$115,000 PackBots used in Iraq for bomb disposal and reconnaissance, added nearly a quarter of last year's total revenue. Investors will like iRobot's relatively modest executive salaries (for Angle, \$234,520 in 2004), and its adherence to the increasingly rare one-share, one-vote rule on corporate matters. (Dolby Laboratories, DreamWorks Animation, and Google are all recent issues that don't.) Best of all, iRobot meets the top criteria on its mission statement: No. 1, Build Cool Stuff; No. 2, Deliver Great Product.

That said, one can't help but notice that iRobot is faltering at item No. 3: Make Money (table). Although the company last year did net its first annual profit, \$219,000 on \$95 million in revenue, it lost \$18.2 million over the two previous years. This year's first-half showing is not encouraging. Despite much higher revenues (\$43 million vs. \$28.6 million in the comparable 2004 period), iRobot's loss widened to \$7.2 million from \$3 million. The company has kept going by selling \$38 million in preferred stock to venture capitalists.

As always, there are worries, such as iRobot's reliance on a single Chinese contract manufacturer for its consumer products and a sole Ohio maker for its military robots. In addition, while iRobot

SCOOBA It scrubs your floors. But what about red ink?

sells Roomba on the Web at its own site and at such others as Amazon.com, it says it enjoys distribution at some 7,000 retail outlets, including weighty chains such as Best Buy, Home Depot, and Target. This might be overstating iRobot's reach, however. One afternoon, I went looking for Roomba near my Florida home. None at Best Buy, none at Home Depot, none at Target. Clerks at Best Buy and Home Depot said Roomba hadn't been stocked since the holidays. I did find 13 Roombas at Bed Bath & Beyond, but they were partly hidden by displays for George Foreman Grills and the Hoover FloorMate SpinScrub 500 hard floor cleaner. I later located two more Roombas at Sears.

If the Scooba does everything iRobot claims, shoppers will find it, online or off. With stock in iRobot likely to be offered near Scooba's debut, underwriters' inventories are a good bet to sell out fast. What might the shares be worth? Rivals' multiples won't be much help. According to Standard & Poor's Capital IQ unit, the Hoover brand's parent, Maytag, has an equity value of nearly 0.4 times sales, while Sweden's Electrolux goes for about the same multiple. Such iRobot rivals for government sales, General Dynamics and Lockheed Martin, go for price-sales ratios of 1.2 and 0.8, respectively. Count on iRobot, with revenues of \$110 million in the past four quarters, to start trading on NASDAQ at a much higher valuation—and risk. ■

E-mail: rb@businessweek.com



iRobot: Ready to Clean Up?

Revenue	\$110
Operating Income	-4
Cash	15
Total Debt and Preferred Stock	38
Shareholder's Equity	-31
Tentative Symbol	IRBT

Scooba Video

irobot.com/consumer/scooba_sneak_preview.cfm

In millions. Income statements data for 12 months ended July 2, 2005; balance sheet data as of that date

Data: Company reports

Hoover brand's parent, Maytag, has an equity value of nearly 0.4 times sales, while Sweden's Electrolux goes for about the same multiple. Such iRobot rivals for government sales, General Dynamics and Lockheed Martin, go for price-sales ratios of 1.2 and 0.8, respectively. Count on iRobot, with revenues of \$110 million in the past four quarters, to start trading on NASDAQ at a much higher valuation—and risk. ■

BY JAMES C. COOPER & KATHLEEN MADIGAN

This Oil Spike Is Harder to Handle

Slower spending or faster inflation look distinctly possible as costs mount

U.S. ECONOMY

Back in the spring of 2004 the key question for the outlook was: Will \$40-per-barrel oil cripple the economy? Later that year it became: What about \$50 oil? Now with oil stubbornly at around \$65 per barrel, the question of oil's effect on growth is taking on a new urgency. After all, rosy economic forecasts at the end of 2004

were generally founded on oil prices settling down to \$39 by the end of 2005, based on a December Business Outlook survey of economists. Even just this June, a follow-up survey pegged oil at \$48 by yearend.

What's increasingly evident is that costlier energy may be a permanent part of the economic landscape. If oil holds at \$65 for the rest of the year, the 2005 price will average about \$59. The rise of China and India—and their oil needs—is a big reason (page 52). In the past four years, China's share of world oil demand has risen from 6.3% to 8%, or by some 2 million barrels of oil per day. That rate is equivalent to Iraq's entire production.

The speed with which oil prices have spiked adds to the concern (chart). The inflation-adjusted price of oil has doubled in less than two years. The last time that happened was in 1980, when the price of West Texas intermediate crude jumped from \$44 to \$88, measured in dollars of 2005 purchasing power. Moreover, the average price of unleaded regular has jumped 32¢ in just three weeks, to \$2.61 per gallon on Aug. 22. That's the fastest three-week rise since the Energy Information Administration began its weekly tracking in 1990.

What's crucial to the second half is how consumers, businesses, and Federal Reserve policy adjust to this rapid and permanent shift in fundamentals at a time when the economy is more vulnerable to any kind of shock than it was in 2004. Those reactions will determine whether the economy can skim past the latest oil spike, as it did during the past two springs. Excessive caution or a few missteps could compound the drag from higher oil prices.

Bear in mind that an oil shock can hit the economy in two ways. It can cut into spending as consumers and businesses shift income and profits toward higher energy bills and away from other purchases. Or the added cost can trigger faster inflation, pushing interest rates up further and complicating the Fed's task of managing the economy. Right now, most of the market focus is on the former, while the inflation risk is generally being ignored.

ANY ANALYSIS HAS TO BEGIN with consumers, who now shell out about \$50 every time they fill up. The burden on lower-income households, where necessities take up a greater share of outlays, has become

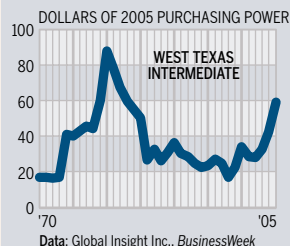
particularly heavy, and sluggish August reports from retailers show some strain on households during the important back-to-school shopping season.

Before this summer, consumers adjusted pretty well to costlier fuel. Price jumps in the spring of both 2004 and 2005 caused some temporary weakening in the pace of spending, and buying patterns as well as readings on

consumer confidence are sure to sag in coming months. But while households bounced back after the two previous soft patches, often with gusto, this time around the rebound could be much more restrained, especially if oil stays at its lofty level.

That's because consumer fundamentals will be far less robust as

THE REAL PRICE OF OIL: UNCOMFORTABLY HIGH



2005 winds down than they were at the start of 2005 or in 2004. Previously, historically low interest rates, the tail-end stimulus of the 2003 tax cuts, improving job markets, solid income growth, and record wealth all combined to give households the means to overcome higher energy bills. Inflation-adjusted consumer spending has grown nearly 4% over the past year. Had oil and gas not spiked, outlays would most likely have grown closer to 5%.

NOW, THOUGH, HOUSEHOLDS face bigger head winds. Tax cuts are a thing of the past, and a declining federal deficit for fiscal 2005 means government finances are no longer stimulating growth.

Moreover, the Fed is set to continue raising interest rates. Last year at this time, the Fed's target federal funds rate—a mere 1.5%—helped to ease the pain of \$50 oil. Now, with oil at \$65, the funds rate is at 3.5% and set to go higher. And while it has not happened yet, at some point long-term rates—including mortgage rates—will rise as well. That means housing and home prices will offer less support to consumer spending and wealth.

While consumers gripe about gas prices, many have

not yet changed their travel plans. The American Automobile Assn. estimates that the number of people traveling 50 miles or more over the Labor Day weekend will increase by 0.9% from last year. The number traveling by car is also expected to be up slightly.

Why no letup? Probably the best explanation is that consumers' fortunes and sense of well-being are tied more closely to the labor markets than to anything else. True, in June households spent \$58 billion more on energy than they did the year before. But their income from wages and salaries rose by nearly \$400 billion.

THE IMPORTANCE OF THE JOB MARKET highlights the idea that the response of businesses to the new surge in energy costs will be just as crucial to the outlook as the response by consumers. Another round of corporate caution may not only mean a drag on capital spending or a squeeze on profit margins or productivity growth. Any new hesitancy could also affect jobs and incomes, exacerbating energy's pressure on household budgets.

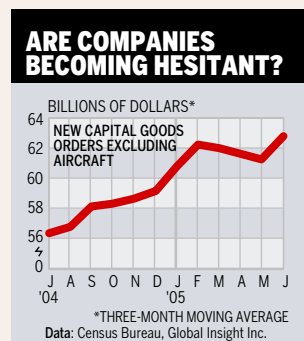
Through most of August, the labor markets look strong, with new weekly claims for jobless benefits trending lower. Based on that, August payrolls probably posted another solid advance. As long as companies are coping, any pullback by consumers in the second half will be short-lived. One caution flag: The trend in orders for capital goods other than aircraft has flattened out in recent months after a period of steady strength (chart).

Interestingly, higher energy costs are now viewed more as a drag on growth rather than as pressure on inflation,

as competition has made it more difficult for companies to pass them along. Back in the 1970s, core inflation, which excludes energy and food, moved almost in lockstep with total inflation. But thus far in 2005, core inflation is actually down.

Moreover, companies have been absorbing the added

fuel bills with little negative impact on profits. Some of that may well reflect success in passing along the higher costs, especially in the service sector. But more likely, solid demand has boosted total revenues for most industries, while strong advances in productivity have helped corporations to control their costs.



The danger is that the pricing constraints of recent years could break down, allowing inflation to broaden. Already, labor markets are tightening, which is likely to spur faster wage growth, at a time when productivity gains are unlikely to be as strong as in the past. If companies do begin to have greater success at passing along their higher fuel costs, then the key question heading into 2006 will not be whether \$65 oil cripples the economy. It will be how the economy and the Fed cope with a significant upward shift in inflation. ■

GERMANY

A Rally With Little Staying Power

THE GERMAN ECONOMY stalled in the second quarter, although recent signs indicate it is picking up again. Even so, any second-half rebound is unlikely to touch off a self-sustaining economic recovery.

The detailed figures for second-quarter real gross domestic product issued on Aug. 23 showed zero growth from the first quarter. An improvement in exports was overshadowed by a surge in imports, creating a net drag from foreign trade. As implied by the jump in imports, domestic demand improved. But the rise in spending at home was not provided by consumers. Private consumption fell by 0.3%. Rather, the government and

businesses carried the load. Public spending and capital-equipment outlays each grew 0.6%.

Improving prospects for exports, as well as a successful effort by German companies to rein in labor costs, have spurred businesses to ramp up their investment. Capital outlays have increased 5.2% from the previous year, vs. 0.6% for the overall economy. And an IFO Institute survey of

analysts around the globe showed a brighter outlook for world growth in the second half of 2005. Of course, growth in German exports and capital spending will depend on whether oil prices squelch the global rebound.

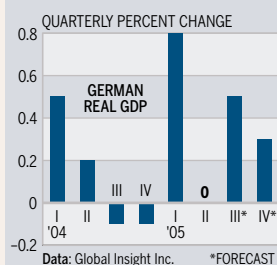
Politics may also spur growth in the second half. Voters

are expected to kick out Chancellor Gerhard Schröder at the Sept. 18 national elections. The Christian Democrats' candidate, Angela Merkel, holds a double-digit, albeit narrowing, lead. If her party wins, she will push to increase the value-added tax (VAT) to 18%, from 16%, beginning in January. In response, consumers will likely make big-ticket purchases during the second half of 2005 to avoid paying the extra tax next year.

Unfortunately, a corresponding decline in consumer spending in early 2006 would be likely. On top of that, a Christian Democrat victory would likely mean further economic reforms, such as the scaling back of restrictive labor laws. Those changes would cause short-term pain for households at the gain of improving the long-term economic prospects of the country. ■

—By James Mehrling in New York

MOVING IN FITS AND STARTS



REAL ESTATE

SHARKS IN THE HOUSING POOL

Deed thieves, property flippers,
equity strippers—these con artists
are duping banks and homeowners

BY DEAN FOUST AND BRIAN GROW

BY MOST MEASURES, Matthew B. Cox would appear to be a mortgage lender's dream customer. The 36-year-old former Tampa resident had once worked in the mortgage business, so he understood intimately what it took to qualify for a loan. And Cox threw plenty of business at mortgage lenders in Florida, and then Georgia: An aspiring real estate investor, Cox took out \$3.7 million in mortgages to finance his apparently ever-growing stable of houses.

But in reality, Cox was the industry's worst nightmare. Federal law enforcement officials say that Cox—a.k.a. Michael Shanahan, David Freeman, and Gerald Cugno—along with his girlfriend, Rebecca M. Hauck, masterminded a mas-

sive mortgage fraud that ensnared at least 10 different lenders, including Bank of America Corp. and SunTrust Banks Inc. Using nearly a dozen stolen identities, the pair forged "deeds of satisfaction" to convince banks that they had paid off loans for—and thus owned—homes that, in fact, they were renting from the true owners.

With these fake documents, Cox then persuaded banks to lend him millions beginning in 2002 and into 2004—millions he and his girlfriend subsequently absconded with. So brazen was Cox that he left some of the mortgage brokers who closed his loans in Florida a copy of his novel-in-progress, titled *The Associates*—little more than a barely fictionalized account of his escapades. Cox and his girl-

friend are now on the lam, their faces plastered on wanted posters distributed to bankers, mortgage brokers, and real estate agents. "We want to catch him so we can put him on trial," says David E. Nahmuis, U.S. Attorney for the Northern District of Georgia.

Welcome to the dark side of the housing boom. While the plunge in interest rates has triggered an explosion of housing and mortgage activity, allowing millions of Americans to buy and refinance houses, it has also given rise to an unprecedented wave of fraud.

The FBI says the number of suspected fraud incidents reported by federally chartered banks, which underwrite roughly half of all mortgages, has soared nearly fivefold since 2000, to 17,700 last year, and



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WANTED



For Identity Theft
Mortgage Fraud
Credit Card

REBECCA M
DOB 7/7/71, 5'4", 135 lbs



Aliases: Grace Hudson
Known as

If seen, call

U.S. Secret



WANTED

For
Mortgage Fraud Identity Theft
Credit Card
MATTHEW B
DOB 7/2/69, 5'6", 182 lbs, brown hair



Aliases: Michael Shanahan, David F.
Maxwell



is set to top 20,000 cases this year. No one has exact figures on how much the fraud is costing banks and homeowners, but analysts say the losses could well amount to more than \$2 billion a year.

And here's the rub: With the property market at last showing signs of cooling off in some parts of the country, the banks may suddenly find themselves less insulated from mortgage scams. Says William Matthews of the Mortgage Asset Research Institute: "In a flat or declining market, the bodies are going to rise to the surface more quickly."

Why the rise in fraud? Chalk it up in large part to the sheer number of mortgages banks are handling nowadays. The plunge in rates has goosed mortgage volume from roughly \$800 billion a year in the mid-1990s to more than \$2.6 trillion now. To meet demand, lenders hired tens of thousands of inexperienced staffers at the same time they were working feverishly to cut the time needed to close loans. As a result, experts say lenders sometimes cut corners on the due diligence that could have caught some of these frauds.

CUTTING CORNERS

COMPOUNDING MATTERS is that lenders, to cut costs, have outsourced the origination of most mortgages to independent mortgage brokers, who now initiate more than two-thirds of all home loans—meaning that banks don't know borrowers the

way they did in decades past. Banks "aren't meeting the borrower face to face anymore," says Arthur J. Prieston, chairman of Prieston Group, a Novato (Calif.) provider of fraud insurance and training. "There has been less concern for the quality of the loan and more for the quantity."

At the same time, con artists have become more sophisticated in their tactics—through their use of identity theft or their ability to detect vulnerabilities in the mortgage process. For instance, some have exploited the logjams that have occurred in overworked county deed offices. Ownership titles that took days to be recorded now take weeks or months, and fraudsters know this leaves lenders confused about who the true owner is. In Douglasville, Ga., a fraud ring refinanced a property in quick succession with three different lenders before selling it. As a result, four lenders now claim rights to the first lien—and the title insurers, which include Fidelity National Title Insurance Co., could be on the hook for the losses. "We're scared to death" of the potential for similar frauds elsewhere, says Fidelity counsel Robbie J. Dimon.

Some scams use sophisticated rings of buyers who flip a property at inflated prices among themselves before absconding with the loan proceeds. That was the case in Stone Mountain, Ga., an Atlanta suburb, where a 15-person fraud ring—a group that included corrupt mortgage brokers, closing attorneys, fake buyers, and an identity thief—flipped at least 100 houses in three neighborhoods over a three-year

period, pilfering roughly \$20 million in bank funds before being busted last year.

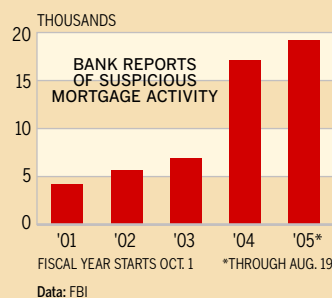
The problem could get worse for banks before it gets better. As long as prices were rising sharply in housing hot spots such as Boston, Washington, D.C., and Southern California, banks duped by fraudsters were often able to cut their losses—or even come out whole—by reselling the defaulted property back into a rising market. But it's unlikely that banks can count on rising valuations to bail them out of bad loans. And while the banks have been securitizing their mortgages and selling them to third parties, they are still on the hook for

part of the loan if it goes bad.

Homeowners are taking it on the chin, too. In Utah, some state officials believe rampant fraud has compelled lenders there to boost mortgage rates by an extra quarter-point to help cover their losses. When property-flipping scamsters drive up house prices, property-tax hikes aren't far behind. And when scams come unraveled, home values can plummet. By the time the Stone Mountain fraud ring was busted in 2004, property values had plunged from an average of \$280,000 to \$180,000—and several of the flipped houses remain vacant, their lawns covered in weeds. "These are homes with no love," says Ann D. Fulmer, a mom-turned-fraud-hunter who helped authorities bust the gang (sidebar).

In parts of the country where housing prices have risen especially quickly, homeowners have become direct targets

THROUGH THE ROOF



OVER THREE YEARS, 100 ATLANTA HOUSES WERE FLIPPED BY A FRAUD RING

Steal Estate

The hot housing market has spawned an epidemic of mortgage fraud. Four common scams:

THE SERIAL FLIP

A fraud ring buys a residential property, then resells it over and over to different members of the same gang. After artificially driving up the property's value in this way, the ring absconds with the proceeds from the final mortgage, leaving the house for the bank to deal with.

THE HELPING HAND

Scamsters scan the courthouse listings to find homeowners who have defaulted on their mortgage and face foreclosure. They promise to help these owners save their home. Instead, using a blizzard of confusing paperwork, they con the rightful owner into deeding over their house.

THE FIXER-UPPER

Con artists convince naïve owners of run-down homes, often the elderly, that they will help them refinance their property, with the promise that the new funds will be used to repair the place; instead, the scamsters abscond with the profits and never do the work.

THE PAYOFF

Fraudsters with fake identities and forgery skills file bogus "deeds of satisfaction," normally used by overburdened banks to ensure that a mortgage has been paid off. Then the scamsters take out new loans on the property in question—which they often don't own—and simply disappear.

of an increasing range of scams. There has been an explosion of “equity stripping” schemes, in which elderly or blue-collar homeowners who have fallen behind on their mortgage payments and are facing foreclosure are preyed on by scammers, who often get their leads from the mortgage-default notices that banks are required by law to file with the local courts. These legal notices “just provide a road map for scammers,” says Manuel Duran, a Los Angeles lawyer who has represented fraud victims.

JUST SIGN HERE

IN THESE SCAMS, the con artists approach homeowners, offering to help them refinance—and thus stave off foreclosure. But their real intent is to steal the equity that these homeowners have built up over the years—either by duping the owner into signing papers in which they transfer ownership or by charging tens of thousands of dollars in exorbitant fees. The former happened to Michelle Roberts-Taylor, a 40-year-old transit supervisor who lives near Washington, D.C. After falling behind on her mortgage last year, Roberts-Taylor received a phone call from a mortgage broker who promised to help her refinance the mortgage at a lower rate. It was when Roberts-Taylor received an eviction notice that she realized she had unwittingly signed over her home to the broker. This fraud, unlike most others, had a relatively happy ending: Roberts-Taylor hired an attorney who was able to win an \$85,000 settlement last December from the broker.

Will the fraud wave recede if the housing market cools off? Perhaps over time, but the banks could be in for a rough ride in the short term. Besides the potential hit from slowing home prices, an end to the boom also could prompt scammers to cash out. And some of these guys have a lot of skin in the game. Earlier this summer, a grand jury in Springfield, Ill. indicted two men for taking out fraudulent, inflated mortgages on more than 150 properties. The scheme cost lenders \$8 million in losses. And they know there are plenty of other big scams out there just waiting to hit. ■

INVESTIGATORS

The Accidental Mortgage Detective

It was the battered red Ford Taurus with the missing hubcap that made Ann D. Fulmer suspicious. The car was parked outside a house that, along with others in her leafy Stone Mountain, Ga., neighborhood, had sold for remarkable prices back at a time—the late '90s—before the real estate boom really took off.

Fulmer, a stay-at-home mom with a law degree, decided to investigate. She combed

a St. Louis maker of fraud-detection software, hired Fulmer as a vice-president. Her doggedness and attention to detail, say investigators, are shining a bright light on an oft-ignored crime. “She’s a driving force,” says John Coliano, supervisory special agent in the FBI’s Baltimore office, who oversaw its mortgage-fraud investigations until July.

Fulmer comes well-equipped for the task. A graduate of the University of Akron School of Law, she defended insurance companies against arson and fraud in the late 1980s. After several years at home with her children, Fulmer began her one-woman mortgage-fraud odyssey in 1997, then joined forces in 2000 with Alicia Sheppard, another homemaker who uncovered fraud in her Gwinnett County (Ga.) neighborhood. The duo set up the Georgia Real Estate Fraud Prevention & Awareness Coalition. Their goal: to show that mortgage fraud is not just a blemish on banks’ bottom lines—but a swindle on local communities.

Taking down scammers has become a personal campaign for Fulmer. Her pulse seems to quicken as she drives through fraud-plagued neighborhoods. In the Mountain Oaks and Waters Edge subdivisions, east of Atlanta, she waves property-tax records showing how, over the past five years, a 15-person fraud ring drove up the price of 100 bungalows and colonials before absconding with the loan proceeds. Some of the houses still sit vacant. On Aug. 24 the gang’s mortgage lawyer, Chalana C. McFarland, was sentenced to 30 years in prison, which could be appealed.

Hunting fraudsters can be a spooky business. Fulmer says they have tailed her, a claim the FBI confirms. When that happens, she says, “I put on my best soccer-mom smile and drive 25 miles per hour.” She clearly has no intention of backing off. This month, Fulmer handed over new data to the Georgia Attorney General’s office: property records showing that one local outfit had bought 88 houses in DeKalb County since 2001. More than half are now in foreclosure—a telltale sign of a potential fraud ring. “For every group you put away, two or three more pop up,” says Fulmer. “It’s like a Hydra.”

—By Brian Grow in Atlanta



SUSPICIOUS

Fulmer found a spiderweb of fraud in her Georgia neighborhood

sometimes nearly doubling in price in the process. Fulmer passed on the intelligence to law enforcement. By 2002 the mortgage-fraud gang was out of business and its ringleader behind bars.

Today, amid an explosion of real estate fraud, Fulmer’s gumshoe skills are in hotter demand than ever. In March the 48-year-old onetime homemaker was a keynote speaker at the Mortgage Bankers Assn.’s National Fraud Summit. In April she briefed FBI agents on the painful personal costs of mortgage fraud. And this month, InterThinx,

through deeds at the county courthouse. What she found was a spiderweb of mortgage fraud: Houses were being bought and sold by the same people—

THE INTERNET

GOOGLE'S GRAND AMBITIONS

Its lips are sealed, but its moves rattle everyone from Microsoft to eBay

IN YEARS PAST, MICROSOFT CORP. could freeze competitors and send investors scurrying just by uttering the name of a market it fancied. Today, Google Inc. is the 800-pound octopus that is filling potential rivals with dread and envy.

In typical Google fashion, the company chose an unusual moment—the sleepy doldrums of mid-August—to shake up the tech world with a flurry of announcements. First, Google confirmed that it had quietly acquired mobile-phone software startup Android Inc. Then came the surprising news that it would add \$4 billion to its cash war chest with a secondary stock offering. And then on Aug. 24, the search giant announced it was getting into the instant messaging and Internet telephony businesses. No wonder tech watchers from Silicon Valley to Bangalore are all wondering the same thing: What the heck is Google up to?

No point asking the Mountain View (Calif.) company. Google, as usual, is about as talkative as a telephone pole. But in dissecting the company's spate of recent hires, investments, and acquisitions you can catch tantalizing glimpses of where the search giant could be headed. Talk about ambition. Google appears to be contemplating forays into everything from Wi-Fi Internet access and mobile devices to

DEEPER POCKETS

Page and Brin plan on having \$4 billion more to shop with

operating systems and e-commerce.

Google faces serious challenges of course, not least because it is playing catch-up in some of these fields. But if the company's outsize ambitions come to fruition, Google would suddenly be on a collision course with some pretty heavy hitters. The company is already challenging Microsoft and Yahoo! Inc. Now it seems to be getting ready to stomp on the turf of such giants as eBay, Motorola, Nokia, SBC Communications, and Verizon. And if you're a tech startup working similar technologies as the savvy folks in the Googleplex, you have two basic choices: Plan to be acquired—or get run over. "There is a new fear and caution about how Google will use its war chest," says Chris Shipley, producer of the DEMO Conference, where startups strut their stuff.

If the search behemoth goes ahead with its myriad initiatives, it will be Google vs. Everyone. Here's a glimpse of where Google may be headed:

GOOGLE VS. VERIZON Playing a role in how consumers connect to the Net is an important step for online giants. It helps deepen the link between Web surfers and Internet companies while providing a window for these outfits to showcase products and services. Google clearly covets such a role, but it has shown no interest in mimicking the access businesses of other tech titans—piling up millions of subscribers like America Online or following Yahoo's

lead of partnering with telecom giants.

Google may be showing its hand in this arena with a couple of little-noticed business moves. In April, Google teamed up with wireless startup Feeva Inc. to sponsor a Wi-Fi hot zone in San Francisco (page 39) in which Google appears as the start page. Google says this is all part of its mission to make access to information more readily available, but it won't comment on other Wi-Fi moves. Some analysts, though, believe it would make perfect sense for Google to bankroll Wi-Fi access points, not only allowing Google to get more users but also to target ads better locally—a huge growth area. "Google wants there to be more search moments," says Esme Vos, editor of the MuniWireless Weblog and a consultant to cities deploying Wi-Fi solutions. "This would make a lot of sense."

Meanwhile, in July, Google invested in Current Communications Group LLC, a company that offers broadband access over power lines. The company has been rolling out its service to a few markets in the U.S., including Cincinnati. Verizon



ILLUSTRATION BY JORDIN ISIP; MICHAEL GRECCO/ICON INTERNATIONAL



“There is a new fear and caution about how Google will use its war chest.”

— Chris Shipley, producer of the DEMO Conference, where tech startups strut their stuff

and SBC take note. These moves show Google is “really interested in affording people the greatest possible access and speeds,” says Scott H. Kessler, an equity analyst at Standard & Poor’s.

GOOGLE VS. MOTOROLA Former insiders say Larry Page—who, with Sergey Brin, founded the company—has ruminated in years past about offering a Google mobile phone, allowing users to search the Net easily and get data from the device. Although a fiercely competitive space crowded with companies like Motorola and Nokia, the barriers to entry are getting lower all the time, thanks to a passel of contract manufacturers from Taiwan and elsewhere eager to make phones cheaply for anyone interested in breaking into the market.

At the least, recent acquisitions show

the company is working on a software platform for mobile phones. In July, the company snatched up the secretive startup Android, founded by Andy Rubin. Rubin’s previous startup was Danger Inc., which developed the popular Hiptop communications device. Although little is known about Android, one person familiar with the company says its engineers at one point had been working on an operating system for mobile phones.

Google also buttressed its mobile-software arsenal with its May acquisition of Dodgeball. The startup has developed social-networking software for mobile devices. A Dodgeball user, for instance, could contact a group of friends in a particular vicinity with a single message on a mobile phone. Google declines to comment on how it intends to utilize the Dodgeball

and Android technologies.

GOOGLE VS. MICROSOFT

Google has been poaching talented engineers with a wealth of expertise in two Microsoft strongholds: browsers and operating systems. One source familiar with the company says some of these hires are working on an Internet operating system that might run on top of Linux and could compete with Microsoft’s Windows franchise. Although any such offering may be years out, it seems plausible based on the talent Google has lured. In recent years, it has hired several architects of Microsoft’s .Net strategy—an attempt to expand its operating system dominance to the Internet. If Google is indeed contemplating an OS, it would amount to an attack on the very foundation of Microsoft.

Google’s raid on browser talent has been just as important. In the past year it has hired several top developers of the Firefox browser, a well-regarded but distant challenger to Microsoft’s Internet Explorer. “If I’m Microsoft, I’m watching these guys co-opt my desktop,” says Michael Gartenberg, an analyst at Jupiter

Research. “I would be concerned about... the sheer power of their presence.”

GOOGLE VS. eBAY Google has not wowed anybody in online commerce so far. Its shopping search site Froogle has not distinguished itself from the pack, and it garners only a fraction of the visitors that go to competing services, such as Yahoo! Shopping. But Google concedes that it is working on an online payment platform—which could put it in direct competition with eBay’s PayPal service.

Another possibility: Google could eventually allow individuals to post items for sale on Froogle. Google’s recent hiring of Louis Monier, former director of eBay’s advanced technology research, has only added to such speculation.

It’s a good bet Google is pondering all of these possibilities and more. The real question is what projects will get the resources inside Google and see the light of day. With uncertainty like that, Google will have the rest of the tech world on edge for some time to come. ■

—By Ben Elgin in San Mateo, Calif., with Arik Hesseldahl in New York



COMPUTER MAKERS

NOTEBOOKS WITHOUT WIDE MARGINS

As competitors crowd the market, prices are dropping, and profits are under pressure

FOR THE PAST FEW YEARS, PC makers have relied heavily on one segment to drive earnings: notebook computers. Indeed, customers' love of portability has created a roaring engine in an otherwise dismal industry. "Notebooks are nicely profitable," Hewlett-Packard CEO Mark V. Hurd told analysts this month, after announcing HP's best PC results since 2001.

But how long will the good times last? Many see signs that this \$79 billion market may follow the same script as the once-lucrative desktop PC business. Even though Gartner Inc. expects notebook revenue growth to increase 15.9% this year, up from 14.5% in '04, it's expected to slow to 12.6% next year.

That's in part because prices are dropping fast. Already, PC makers are trying to woo buyers with no-frills laptops priced as low as \$499, or \$399 with rebates. And competition is heating up, with scrappy players such as Acer, Averatec, and Gateway clearly prepared to accept lower gross margins and make it up on volume. Roger D. Kay, president of EndPoint Technology Associates, figures operating profits on notebooks are still around 9%, vs. 5% for a desktop. "But when the bloodbath is

over," he asks, "are notebook margins going to be any better than desktop margins? Probably, but not by much."

Blame a dangerous double whammy, says First Albany Corp. analyst Joel M. Wagonfeld. Not only are profit margins declining as makers run out of room to cut costs, but cheapo models are expected to drive most of the sales growth. That means even if margins stabilize, PC makers will realize even fewer dollars of profit per unit.

And with much of the global demand coming from price-sensitive emerging markets like China, the average notebook price is expected to fall to \$717 in 2008, says IDC, down from \$1,050 today. Assuming, as many analysts do, that operating margins will fall to 6%, that leaves a meager \$50 profit. "Most of the growth is coming from less-profitable markets and lower-priced products," says Wagonfeld. "That's why, despite great unit growth, you have anemic revenue growth."

Meanwhile, players at the low end of the

HUNT AND PECK

Low-end makers are exerting pressure

market are expected to keep the margin pressure cranked up. Having merged with low-price desktop maker eMachines Inc., Gateway Inc. is applying its thrifty ways to the notebook market. And Asian players willing to accept lousy margins for more share are muscling in. One is Averatec Inc., a three-year-old outfit based in Santa Ana, Calif., backed by the same Asian manufacturer, TriGem Computer Inc., that funded eMachines. Averatec President Saeed Shahbazi says the company already makes do with that miserly 6% operating margin on its notebooks, which are mostly aimed at the current sweet spot of the market: so-called "thin and light" machines costing around \$1,000.

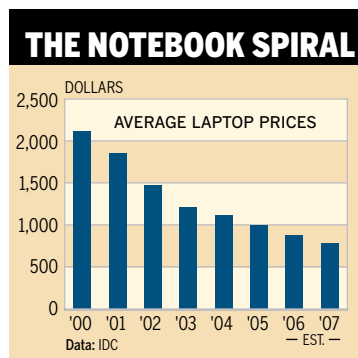
CORPORATE SLOWDOWN

COMPETITION AND falling prices aren't a fatal formula for PC makers as long as unit growth keeps pace. But many analysts fear growth is bound to slow at some point. While sales to consumers remain brisk, Leslie Fiering, an analyst with Gartner, says a three-year buying binge by corporations has started to slow. "The replacement cycle is tapering off," he adds. "And as demand comes down, not everyone is going to be able to maintain enough margin to remain viable."

PC makers say they're unfazed. They note that buyers tend to purchase plenty of high-margin add-ons, including service contracts, additional batteries, and docking stations. Moreover, there's still room to innovate and earn a premium from customers. Gateway this week announced a new theft-protection service that helps corporate IT managers locate lost or stolen laptops. HP's recently updated models have a feature that lets users play a CD or DVD without waiting for Windows to boot up.

Few expect an all-out price war this Christmas. That's due in part to shortages in certain components, which could limit production in the coming months, and price hikes on other parts. Still, there's little doubt that notebook profits are heading in the wrong direction. The only questions are how fast it's happening and how bad the bloodletting will be. ■

—By Peter Burrows, with Louise Lee, in San Mateo, Calif., and Bruce Einhorn in Hong Kong



THE INTERNET

WI-FI WITH ITS OWN ZIP CODE

As more municipalities set up wireless networks, a fast-moving business emerges

ADDISON, TEX., JOINED the nation's tech elite on Aug. 23. With the flick of a switch, Mayor Joe Chow turned on a city Wi-Fi network that covers all 4.5 square miles of the Dallas suburb. Now, Addison's 100,000 residents can buy fast wireless Web access from startup RedMoon Inc. for just \$16.95 a month—a far better deal than most phone or cable broadband offerings.

As towns across the country launch wireless broadband networks to bring affordable Web access to their residents, companies from tiny RedMoon to heavyweights such as Hewlett-Packard Co. are jockeying to become their partners. Their motivation: Getting in on the ground floor of a potentially fast-growing business while creating an alternative to the Bells and cable outfits that control most of the country's broadband pipes.

On Aug. 18, Wireless Philadelphia, the nonprofit running that city's Wi-Fi network, chose HP and EarthLink Inc. as finalists to build and manage its \$18 million system. Minneapolis is now reviewing proposals from EchoStar Communications Corp. and Sprint Nextel Corp., among others, to build and run a \$15 million to \$35 million citywide network. Google Inc. sponsors a wireless hot zone in San Francisco's Union Square, and analysts wonder if the Internet giant will bid for the city's new Wi-Fi project.

BIG BUCKS

THE MUNI WIRELESS business is still in its infancy. But with 300 cities launching or soon to launch Wi-Fi networks, the market could yield roughly \$200 million in revenues a year, according to market tracker Yankee Research Inc. Although Wireless Philadelphia has yet to negotiate



Look Who's Jumping Into Wi-Fi

PHILADELPHIA EarthLink and Hewlett-Packard are finalists to build a 135-square-mile citywide network, serving up to 1.5 million people

MINNEAPOLIS EchoStar is bidding against Sprint Nextel and EarthLink, among others, to build a 59-square-mile citywide Wi-Fi and fiber network, eventually serving 385,000 residents

LEXINGTON, KY. MCI is building a pilot network in the city's downtown, which could grow to serve 275,000 inhabitants

a final price with its winning bidder, its business plan calls for spending \$50 million over five years. Many cities and their corporate partners haven't yet set prices. But Philadelphia for now envisions selling Wi-Fi at less than \$20 a month and just \$10 a month to low-income residents.

Cities may want Wi-Fi to bridge the digital divide. But many of their potential partners—such as Sprint, MCI, and satellite TV provider EchoStar—are old rivals to the Bell and cable companies and see wireless as a way to compete with their enemies. While Internet service providers such as Earthlink can still make deals with the Bells and cable outfits for delivery of services, “it’s essential now for [such] companies to log on anywhere in town to figure out an alternative way to get into people’s homes,” says

Ronald A. Sege, chief executive of Tropos Networks, a wireless-broadband equipment vendor in Sunnyvale, Calif.

Equipment makers also want to get a toe in the door. Hewlett-Packard, which long has provided technology infrastructure for telecom companies, views wireless broadband as the communications system of the future. “It’s a natural evolution for HP to move into this space,” says William J. Mutell, senior vice-president of worldwide public-sector solutions. The Palo Alto (Calif.) company is bidding to build Wi-Fi networks in six cities and currently operates systems in St. Cloud, Minn., and Franklin, Tenn.

The rush to build muni wireless zones has got the Bell and cable companies plenty worried. They have mounted lobbying campaigns in 14 states to bar local jurisdictions from creating their own networks, but have failed in all but one. In Congress, the issue will likely get ironed out as part of an impending overhaul of the 1996 telecom law. To fend off the Bell and cable lobbies, many cities are opting for outsiders to own their Wi-Fi network.

The new competition already may be having an effect: Verizon Communication Inc. just dropped its DSL pricing to \$14.95 a month. Cities, meantime, see these networks as a necessity of the Information Age. “Just as with the roads of old, if broadband bypasses you, you become a ghost town,” says Dianah L. Neff, Philadelphia’s chief information officer. As more and more burbs rush to get connected, Techdom senses a potentially lucrative business in the making. ■

—By Catherine Yang in Washington, with Ben Elgin in San Mateo, Calif.

LAWSUITS

THE PAIN IS JUST BEGINNING

Why the Vioxx debacle will hobble Merck for years to come

Another corporate icon has been humbled. Long a Big Pharma powerhouse, Merck & Co. now looks likely to emerge from its Vioxx mess as a weakened version of its former self: a second-tier player among its rivals.

The fallout from the Aug. 19 Texas jury verdict is only beginning. The \$253 million award is likely to bring on a torrent of new lawsuits, even as another ominous cloud gathers: The Justice Dept. is continuing a criminal investigation into Merck's handling of Vioxx. Should the probe result in convictions of current or former Merck executives, the odds of big punitive-damage awards in civil cases would increase. Then there's the biggest wild card of all: Do Vioxx users have an increased risk of heart attacks even after they stop taking the drug? While doctors say that's unlikely, data from a company study could show otherwise, potentially ballooning the number of plaintiffs and even jeopardizing the company's survival.

When Merck's team of lawyers began their opening arguments in a Texas courtroom in mid-July, they thought science would vindicate the company. Sure, Vioxx had been linked to heart attacks and

strokes, which was why Merck stopped selling its blockbuster pain pill last fall. But there was no evidence, they argued, that Vioxx could have killed Robert C. Ernst, a 59-year-old triathlete who died in his sleep in 2001 after taking the drug for eight months. Just look at Ernst's autopsy, they said. The coroner concluded the cause of death was an irregular heartbeat known as an arrhythmia.

It turned out, of course, to be a costly misjudgment. A jury voted 10-2 that the arrhythmia likely was brought on by a clot and a sudden heart attack, and for that, Merck should richly compensate Ernst's widow, Carol Ernst. Merck will almost certainly see the massive verdict reduced and has a decent shot at prevailing in an appeal. But the decision is ominous. Ultimately, some analysts estimate that Merck's liability could soar to \$50 billion.

FADING FASTER

INVESTORS WERE fretting well before the Texas verdict. Merck's biggest seller—cholesterol-lowering drug Zocor, with forecast sales of \$4.4 billion this year—loses its patent protection next year. Now, management distraction and the financial toll of settling Vioxx suits seem likely to make it harder for Chief Executive Richard T. Clark to attract the

best scientists or tie up with outside companies for products to make up for that loss. "Even without Vioxx, Merck was fading," says Lloyd S. Kurtz, portfolio manager at Palo Alto (Calif.)-based Nelson Capital Management. "Now maybe they fade faster."

Merck executives dismiss such talk, arguing that the company is as strong as it ever was. Merck's general counsel Kenneth C. Frazier says estimates of the number of suits and Merck's potential liability are "highly speculative." He adds that while the company didn't make its best case in Texas, management acted responsibly in its handling of Vioxx. "I don't see this as an issue that in any way cripples our mission going forward," Frazier asserts.

Certainly, Merck can withstand a sizable hit. The Whitehouse Station (N.J.) company had \$14 billion in cash and investments as of June 30. Even at today's post-verdict stock price of almost \$28 a



PHOTO ILLUSTRATION BY JOE CALVIELLO/BW AND DAVID RUDES/BW; PHOTOGRAPHS BY GETTY IMAGES; PICTUREQUEST

Medicine Chest Full Of Worries

The **Vioxx** tab could swell to \$50 billion under the following scenarios:

MORE JURY AWARDS

In the Texas case, the victim died of an irregular heartbeat. But in studies Vioxx has been linked to an increased risk of heart attacks and stroke, not arrhythmias. If those sorts of cases continue to succeed, Merck faces a troubling expansion of the plaintiff pool.

LINGERING VIOXX RISK

For now, the big threat is cases involving people who had a heart attack while on Vioxx. But Wall Street is awaiting data that will reveal whether patients remain at risk after they stop taking the drug. If so, the number of lawsuits, already at 4,100, could mushroom.

CRIMINAL CHARGES

The Justice Dept. is investigating Merck's handling of Vioxx. If the government convicts current or former Merck employees of criminal wrongdoing, punitive-damage awards would be more likely in Vioxx civil trials.



es that involve heart attacks, damages could hit \$30 billion. But that number may prove conservative if plaintiff's lawyers pile on with cases like Ernst's that don't involve proven heart attacks. Add in the increased likelihood of punitive damages, and the bill could go as high as \$50 billion, says analyst David Moskowitz of Friedman Billings Ramsey.

LOOMING STUDY

BUT MERCK'S dilemma may be even more complicated. The company is still tracking the health of patients in a study it stopped last September when it pulled Vioxx. The company will begin collecting and analyzing data on those patients later this fall, although the company says it does not know when the fol-

low-up information from that study, called APPROVe, will be ready for release. The key question is whether the risk from taking Vioxx persists for some period after people stop taking the drug.

Dr. Robert S. Bresalier, a member of the steering committee that led the APPROVe trial, says he suspects there is no lingering risk, and investors are betting he's right. But given the scientific uncertainties about exactly why Vioxx

people expect Merck to fork over anything close to \$253 million. For one thing, state caps on punitive damages could slash that portion of the award to less than \$2 million, says Victor E. Schwartz, a partner at Shook Hardy & Bacon and an expert on tort law. In addition, lawyers say Merck may have good grounds to appeal the verdict. Among the key issues: whether testimony of the coroner who performed the autopsy on Ernst was appropriate. Schwartz says a decision from the Texas Supreme Court several years ago requires judges to act as gatekeepers of the scientific evidence they allow into their courtroom. Frazier says the fact that the coroner testified that she believed there had been a clot despite an autopsy report which found no evidence of it made her opinion "unreliable scientific testimony."

The huge number of suits that Merck could eventually face has many wondering whether it will seek a global settlement. But such a settlement could be just as risky as Merck's strategy of taking on plaintiffs one by one. Consider the case of Wyeth and its liability from its diet drugs Pondimin (the "fen" in the fen-phen combo) and Redux. Wyeth agreed to settle claims in 2000, three years after pulling the drugs, which were

linked to heart-valve damage. But of the 6 million people who took the drugs, many who sustained the most serious injuries passed on the settlement and sued anyway. And the settlement fund was overwhelmed by more claims than expected. So far, Wyeth, based in Madison, N.J., has taken \$21 billion in reserves. Wyeth, says Columbia University Law School Professor

FIRST OF MANY?

The Texas verdict is likely to spark a rush to the courthouse

John C. Coffee, "probably rues their decision to enter into a settlement."

Merck isn't about to disappear anytime soon, of course. "I think they'll be able to buy their way out of this for \$50 billion," says W. Mark Lanier, the attorney who represented Robert Ernst's widow. But whatever the ultimate figure, it's clear that Merck will be paying for Vioxx for a long time to come. ■

—By Amy Barrett
in Philadelphia

share, Merck maintains a market capitalization of \$60.5 billion. Merrill Lynch & Co. analyst David R. Risinger figures Merck will throw off \$1 billion or more in cash after paying its dividend this year and in 2006. And the company could free up more bucks if it decides to cut that \$3.3 billion annual dividend. While Merck has said it is committed to maintaining its dividend, Nelson's Kurtz says that payout is probably "unsustainable."

A dividend cut would be hard to avoid if Merck can't turn the tide in the courtroom. Right now investors and industry experts are flabbergasted that the company's lawyers did not effectively address the paper trail in the Texas case. Among the most damning exhibits: a 2000 memo that said a key study seemed to confirm fears about cardiovascular problems. Merck's Frazier says such memos reflect the fact that some data did raise initial concerns about Vioxx' cardiovascular safety. But he says subsequent analysis of other studies allayed those concerns. Next time, he says, Merck lawyers must explain that better to jurors. But he says Merck will continue to defend each case individually and will not negotiate a global settlement.

Even if Merck can manage to rack up some wins, many on Wall Street are bracing for a huge bill. Analyst Richard T. Evans of Sanford C. Bernstein & Co. estimates that the number of plaintiffs could easily hit 65,000. Under that scenario, and looking at the average payout in cas-



heightens the risk of heart attack, Bresalier says there is no way to be sure until the data are in. If there is some ongoing risk, Moskowitz of Friedman Billings Ramsey warns that the pool of plaintiffs could expand alarmingly. That, he says, could "call into question the survival of the company." Frazier says the company can't speculate on what that data will show but reiterates the company is financially strong.

When it comes to the Texas case, few



RETAILING

THE NEXT FASHION VICTIM: INVESTORS?

Recent deals for apparel makers have pushed prices to worrisome levels

TOMMY HILFIGER IS HOT again, and it's not because of his red, white, and blue ensembles for the back-to-school set. No, this time the buzz is that the company itself may soon go on sale. Although no deal has yet hit the market, rumors of an auction soon after Labor Day have helped push the stock up 38% in August.

Hilfiger's no fashion leader, however. When it comes to mergers and acquisitions, clothes companies are all the rage. That has some smart investors worried that prices are getting too high. "It's a buying spree that doesn't seem to have a whole lot of pricing discipline," says Liz Claiborne Inc. CEO Paul Charron, a long-time acquirer who has done only two deals in the past two years, despite actively looking. "We see many overvalued properties on the market."

And prices just keep getting higher. James P. Fogarty, a managing director at restructuring advisers Alvarez & Marsal Holdings LLC and former CFO of apparel maker Warnaco Group Inc. and Levi Strauss & Co., says prices on recent deals

have come in at a multiple of cash flow that's roughly 20% higher than what companies fetched just a few years ago. Investment bankers say some of the richest deals have closed at values as high as 15 to 16 times earnings before interest, taxes, depreciation, and amortization, or EBITDA, a common proxy for corporate cash flow. That's twice what public apparel makers command.

FLAT BUSINESS

THAT MIGHT NOT be so worrisome if the sector itself weren't weakening. Marshal Cohen, chief industry analyst for NPD Group Inc., expects clothing sales to grow 2.9% this year. But he thinks even that modest rate will slow as consumers snap up electronics over fashion and gas prices hit home.

Few apparel companies are as vulnerable as Hilfiger. Revenue from its U.S.

IN DEMAND
Tommy Hilfiger's stock price is soaring

wholesale business, most of it with department stores, dropped 29% to \$684 million last year and is expected

to fall another 30% this year. Hilfiger is further threatened by Federated Department Store Inc.'s pending deal to buy May Department Stores Co. and close 68 stores in 2006. Nor will clothing manufacturers be helped by Federated's expected expansion of its successful and high-margin private-label brands, including Inc. and Alfani, onto May's floor space. "I think Tommy's going to be a hard sell," says Maggie Gilliam, a former Wall Street analyst who runs consulting firm Gilliam & Co.

Caution aside, the run on fashion seems likely to continue. For one thing, suppliers hope that by bulking up, they can regain leverage on pricing with their now much bigger retail customers. Another reason: Private equity funds, which are flush, are in need of places to put their cash. In 2004 and the first half of 2005, such funds have raised \$88 billion, according to Thomson Venture Economics.

These funds are looking to apparel makers because of their low debt levels, modest capital-investment needs, and high margins, says Paul Altman, a vice-president of Sage Group LLC, a Los Angeles investment bank

specializing in consumer brands. In one recent deal, Altman says, he had bids from six interested buyers, though only five had even talked to company management.

Such fevered competition worries long-time apparel investors. Bear Stearns Merchant Banking has done quite well on a number of retail investments including Aéropostale

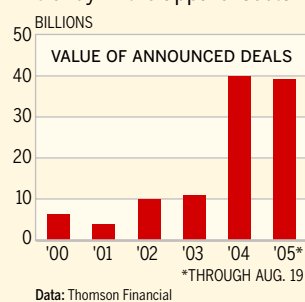
Inc., whose stock is up 34% since its 2002 initial public offering. It recently took a stake in 7 for All Mankind, a fashion jeans maker. But partner Bodil Arlander says that the \$1.5 billion fund probably won't want to pay the price Hilfiger might fetch.

For Hilfiger, this may be a smart time to sell out. But if investors are tempted, they should be careful. Like that pricey shirt you just can't resist at the store, it may soon seem like it wasn't worth all that money. ■

—By Nanette Byrnes in New York

HOT NEW STYLE: M&A

Mergers and acquisitions are trendy in the apparel sector



EDITED BY MONICA GAGNIER

HEADLINER

BILL FORD JR.



ROUGH ROAD AHEAD

Ford Motor will lay out details of a "comprehensive" restructuring this fall, Chief Executive **Bill Ford Jr.** told reporters on Aug. 23. Ford is scrambling to restore profitability to its North American auto operations, plagued by sinking market share and steep materials and health-care costs. The unit lost \$907 million pretax in the second quarter.

The carmaker already began eliminating 2,750 white-collar jobs this summer, or nearly 8% of its North American total, and may cut further. The CEO says Ford must tackle overcapacity and didn't rule out closing more assembly plants. Some analysts think Ford may close as many as four plants after labor talks in 2007.

The belt-tightening has spread overseas. Ford's Volvo Car unit on Aug. 23 said it will lay off as many as 1,500 workers in Sweden, or 5% of its global workforce. However, Ford's CEO vows that besides slashing costs, the restructuring will include positive initiatives. That might include pumping out more hybrids.

—Kathleen Kerwin

BEANTOWN'S NEW BOURSE

The **Boston Stock Exchange**, founded in 1834, is going high tech with help from some of the big investors. Backed by **Fidelity Investments**, **Citigroup**, **Credit Suisse First Boston**, and **Lehman Brothers**, it plans to launch an electronic arm. The Boston Equities Exchange, or BeX, is set to open in 2006 and aims to grab 5% of all trades. Boston's move follows plans by the **New York Stock Exchange**, the **Philadelphia Stock Exchange**, and the **NASDAQ Stock Market** to add electronic platforms. But mutual funds have criticized the Big Board's plan for favoring its old-fashioned specialist firms. What's more, unlike publicly traded competitors, BeX won't face pressure from shareholders to raise transaction fees.

VEGAS CONDOS BY CLOONEY



Hollywood heartthrob George Clooney is teaming with **Related Cos.**, developers of the Time Warner Center in New York, to build a \$3 billion hotel, condominium, and casino project in Las Vegas. Las Ramblas will consist of 11 high-rise towers on 25 acres along the Harmon Avenue corridor, which cuts through the center of the city's famed

Strip. Some 50,000 new condos are already under construction in Las Vegas, which is becoming a second-home destination for the world's well-to-do. Clooney, who'll be an investor, resident, and designer in the project, says he'll donate 25% of his profits to charity. Construction is to begin in mid-2006.

KMART: WHO KNEW WHAT?

A week after an arbitration panel cleared former **Kmart** Chairman and CEO Charles Conaway of mismanagement in a suit brought by former Kmart creditors, the **Securities & Exchange Commission** accused him of misleading investors about the retailer's finances before it filed for bankruptcy in 2002. The SEC brought similar fraud charges against former Kmart Chief Financial Officer John McDonald. The commission did not accuse the pair of fudging Kmart's numbers. Rather, it faulted them for failing to give investors a clear picture of the liquidity crisis the company faced in 2001. Lawyers for Conaway and McDonald said the two expect to be exonerated.

MORE MILEAGE FOR MOTOWN

The federal government on Aug. 23 proposed new rules that would raise the fuel economy of sport-utility vehicles, minivans, and pickup trucks by 8% from 2008 to 2011. The new regs would split trucks into six categories, each with its own mileage standard. Current rules demand a 21-mpg average for all the trucks an auto company sells. Detroit heaved a sigh of relief over

the rules. Those big SUVs and pickups will only have to average 21.3 mpg by 2011, while the smallest SUVs must improve mileage by 35%, to 28.4 mpg on average. The biggest trucks, including **General Motors'** Hummer H2, are still exempt because of a regulatory loophole.

ET CETERA...

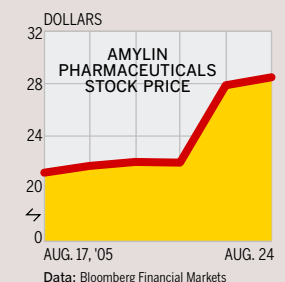
» Under a deal with New York Attorney General Eliot Spitzer, **AOL** will make it easier to cancel its service.

» Federal bankruptcy filings jumped 11%, to a record 467,333, in the second quarter from a year earlier.

» **Whirlpool** will acquire **Maytag** for \$2.7 billion in cash and stock.

CLOSING BELL

Score one for the gila monster. Shares of **Amylin Pharmaceuticals** soared 31.6%, to \$28.86, in the two trading days ended Aug. 24, after the company disclosed good trial data on a long-acting form of Byetta, a diabetes treatment derived from the lizard's saliva.



FORD: NFL PHOTOS/GETTY IMAGES; CLOONEY: GETTY IMAGES

EDITED BY LEE WALCZAK

A Revolt at The Schoolhouse Door

WITH ALL THE *Sturm und Drang* befitting a revolution, Newt Gingrich & Co. rolled into Washington in 1994 promising to take an ax to the federal bureaucracy. One of the top targets: the Education Dept., which conservatives saw as a bureaucratic monster encroaching on states' rights. Meanwhile, in

Richmond, Va., a new Republican governor had his own idea about fixing schools—one that would require students to pass tough competency tests. After a public outcry, the Gingrichites beat a hasty retreat. But Governor George Allen's Standards of Learning program was enacted and became one of the first school-accountability programs in the nation.

Education reform is causing an outcry again, but this time state lawmakers are taking aim at the Bush Administration. In 2001, Hill Republicans, prodded by President Bush, opted for a top-down approach to school performance. Bush's No Child Left Behind Act (NCLB) took a page from Allen and applied it nationwide, imposing a rigorous testing regime on states and transforming the agency Gingrich tried to deep-six from a \$14 billion backwater into a \$22.4 billion behemoth.

It's not just Democrats who are throwing spitballs. Republicans, including now-Senator Allen, blast the law, citing rising costs and hopeless goals. Allen calls the program a "counterproductive federal intrusion" that hampers state reforms. Virginia, for example, already tests students in math and reading—as well as science, economics, and history—before graduation. NCLB "would require us to



dumb down our standards to the federal level," Allen says. He and Representative Bob Goodlatte (R-Va.) have introduced legislation to let some states opt out of No Child directives.

The bill is symptomatic of a growing grassroots rebellion. With all states required to begin testing this year, and as sanctions against lagging schools begin to take effect, more than 20 states are de-

ALLEN wants to avoid having to "dumb down" Virginia standards

bating whether to drop out and forgo federal funding. Others have simply set ridiculously low standards to make targets easier to meet.

The Administration points to the program's successes, especially rising test scores. "We've gotten assessment results from over half the states, and we're seeing higher math or reading scores in almost every one," Education Secretary Margaret Spellings said on Aug. 23.

But states aren't buying it. On Aug. 22, Connecticut Attorney General Richard Blumenthal—backed by his Republican governor, Jodi Rell—sued the federal government, accusing Washington of not ponying up enough money. Other states, such as Maine and New Jersey, are expected to follow suit.

The school revolt is being driven largely by Republicans. "If you go into the states, there are more Republicans opposed to [NCLB] than Democrats," says Neal McCluskey, an analyst at the libertarian Cato Institute. The rebellion is opening fissures in a GOP already agonizing over the Iraq war and runaway spending on Bush's watch. On one side are small-government Republicans who abhor Washington dictates. On the other are pols like Bush who want to use government's machinery to push conservative ideals—including shock treatment for failing public schools.

"NCLB, at the grassroots, has become one of a growing litany of frustrations" for Republican hardliners, says Michael Franc, a Heritage Foundation analyst. "They get the sense that conservatives in Washington have lost their competence." But as criticism mounts, Bush is hanging tough. The Reformer-in-Chief reckons that rising math and reading scores will soon silence his critics. ■

—By Lorraine Woellert

No Gripe Left Behind

States have been complaining about No Child Left Behind ever since Congress passed it in 2001. But now a full-fledged rebellion is building. Here are the states' biggest beefs:

FLEXIBILITY The law fails to recognize challenges faced by school districts with special student populations, such as the learning-disabled or non-English speakers. Forty states have requested exemptions from parts of the law, with varying degrees of success.

FUNDING Federal money accounts for less than 8% of all school funds, but NCLB has affected nearly all classroom activity. Many states have hired auditors to nail down the program's true cost. Connecticut's lawsuit calls the law an unfunded mandate.

TOO MUCH TESTING An excessive amount of class time is spent prepping students to pass NCLB's reading and math tests at the expense of other subjects such as history.

EFFICACY The program doesn't target the students who need the most help. Studies show, for example, that poorly performing students rarely take advantage of NCLB rules that allow them to transfer to better schools.

JAPAN

CANON: COMBAT-READY

Cost cutting and lavish R&D spending have made it strong. But maintaining profit growth won't be easy

THE GIANT STATUE OF Buddha that overlooks Canon Inc.'s Ami plant in Ibaraki, north of Tokyo, is hard to miss. Standing 394 feet tall—higher than the Statue of Liberty—the Buddha watches over a landscape of verdant fields and the occasional factory. For workers assembling photocopiers in the Canon facility, though, Buddha's stare pales in comparison to Hiroshi Ishii's steely gaze. Plant manager Ishii likes nothing more than to scour the factory for any hint of inefficiency. "No matter how small, we have to identify waste and find ways to eliminate it," he says, casting a knowing eye over a young worker wrapping copying machines in plastic.

Ishii may sound obsessive, but it's that sort of passion for improvement that has transformed Canon from a symbol of debt-ridden, post-bubble Japan into one of the country's leading enterprises. Ishii and his colleagues at Ami, for instance, have developed systems such as foot-controlled motors that rotate workstations so workers don't have to step around the copiers they're assembling. And since extending one's arm takes time, Canon is shaving seconds by striving to put all components and tools within 8 inches of a worker's hand.

Driving Canon's quest for efficiency has been CEO Fujio Mitarai, who stepped into the top job a decade ago. When he took over, Mitarai was dismayed by the debts of \$7.5 billion he inherited. Worse, perhaps, was Canon's mishmash of businesses, ranging from liquid crystal displays to typewriters. So, going against

years of Canon tradition, he became one of Japan's leading cost cutters. Mitarai focused only on the profitable products—mainly copiers, printers, and cameras—and dumped seven departments, including the personal computer, typewriter, and LCD screen divisions. In the past five years, savings have averaged \$800 million annually, even as sales have jumped by 30%.

"STEADY PROGRESS"

MITARAI'S FIXATION on cost cutting and financial prudence—picked up during 23 years at Canon's U.S. operations—has paid off in profits. On July 27, Canon announced that its operating margin for the first half was 15.4%—about double that of most printer-and-copier rivals and triple

that of leading consumer electronics makers. For the year, Canon expects earnings to grow by 6.9%, to \$3.28 billion, on sales of \$32.9 billion, up 6.1% from 2004.

That's not to say Canon has no worries. Its digital camera business, while more resilient than many rival operations, is unlikely to repeat the profit growth of the last five years as camera prices tumble. JPMorgan Chase & Co. projects that margins at the camera division will fall to 12.2% by 2009, from 17% today. Meanwhile, despite better-than-expected sales, Canon's second-quarter operating profit fell short of expectations because of the declining prices. In response, Canon's stock has tumbled by 8% since July 20. "This shows that even Canon isn't immune to price pressure," says John Yang, an equity analyst at Standard & Poor's in Tokyo who cut his Canon rating from "buy" to "hold" after the most recent results.

Another concern is the emergence of new competitors in Canon's mainstay business-machine segment, the printers and copiers that make up 65% of sales. Chinese manufacturers might increase exports of replacement toner cartridges—which represent the bulk of profits for virtually all printer makers. Hewlett-Packard Co., meanwhile, is both a partner and rival to Canon, buying the guts of its laser printers from the Japanese company but pushing hard to boost sales of its own ink-jet models. And Dell Inc. last year sold \$1 billion worth of printers and has nabbed 13.3% (in units) of the U.S. market for color laser printers since jumping into the fray just over two years ago.

A greater potential issue for investors is the retirement of

Canon's Challenges

What Mitarai must do to stay ahead

COST CUTTING

Facing world-class competitors such as Sony, Matsushita, and Dell, Canon needs to find still more savings by increasing automation, boosting in-house production, and winnowing suppliers.

COLOR CRUSADE

To keep prospering, Canon needs to speed the shift to color office equipment worldwide. In Japan, more than a quarter of all copiers bought by companies are color, but the U.S. and Europe lag behind.



TUNE IN TO TV

Canon hopes to sell 250,000 newfangled SED flat-screen TVs a month by 2010, but first it will need to bring down manufacturing costs and build a brand in a sector where it has no experience.

MORE SUPERSTAR PRODUCTS

With digital camera sales growing more slowly, investors want to see new products to keep profits rolling in over the next five years.

Canon PowerShot SD30

Data: Canon, Nikko Citigroup, Gartner Dataquest



THE BOSS

Mitarai is fixated on efficiency and financial prudence

Canon's dynamic, 69-year-old boss. No hand-off plan has been publicly discussed, and the company declines to comment on potential successors. "I'm very concerned what happens after Mr. Mitarai," says Hisashi Moriyama, an analyst at JPMorgan Chase in Tokyo. Despite his age, though, Mitarai doesn't sound like someone with one eye on the exit door. "I won't say in how many years I will quit. I don't think about it

that way," he says. "I set myself a goal and make sure I achieve it."

The goal now is profits, and Mitarai says Canon's current run in that department is far from over. The company is the world's No.1 digital camera maker, with 23.6% of the global market, just ahead of Sony Corp.'s 23.2%. Despite the slowdown in digital camera sales growth, Canon's offerings are still delivering healthy earnings at a time when some big rivals are losing

“Even Canon isn’t immune to price pressure”

money. And Canon is likely to ride the transition from monochrome printers and copiers to more profitable color models for the rest of this decade.

Some analysts fret that the company may not be able to come up with the kind of new products necessary to keep growing and achieving double-digit margins, but Mitarai is devoting piles of yen to research. This year, Canon will spend 8% of sales on research and development, compared with 6% to 7.5% at many large rivals. Over the years that has paid off in lots of ideas: Canon has filed more than 17,000 patents in the U.S. since 1995—second only to IBM. Most of Canon's products rely on patented core technologies developed in-house, such as photosensitive drums in laser printers or imaging engines used in digital cameras. “We have to plant the seeds for the next decade and beyond,” says Mitarai.

MORE ROBOTS

SOME OF THOSE SEEDS, Canon hopes, will grow into three video display technologies: SED TV panels, which are a new kind of flat-screen television that Canon plans to build with Toshiba; rear-projection TVs; and OLEDs (short for organic light-emitting displays). Canon has announced plans to begin selling the SED TVs next year, but skeptics say it may be tough to bring down costs fast enough to seriously challenge other flat-screen technologies. OLEDs, meanwhile, use less power and are brighter than LCDs. Starting in 2007, Canon hopes to begin swapping them for some of the 20 million small LCD screens it currently buys annually for use in its printers, cameras, and camcorders.

Canon isn't finished with its cost cutting, either. Last year the company announced plans to trim an additional 10%, or \$1.1 billion, from procurement costs by 2006. And executives expect more savings from increased automation. “We have to start thinking of a new production method that will be more efficient,” says Mitarai, who aims to triple the number of robots used at Canon by 2008. Attention to detail. Relentless cost cutting. Lavish spending on research. It's a formula that has served Canon well. ■

—By Ian Rowley, with Hiroko Tashiro, in Tokyo, and Louise Lee in San Mateo

JAPAN

'AN ENVIRONMENTAL TIME BOMB'

Tokyo ignored asbestos for years. Now it's paying the price

FOR DECADES ASBESTOS has been known to cause cancer in those who inhale its tiny fibers. That has triggered restrictions on its use and, ultimately, thousands of lawsuits in the U.S. and elsewhere. But in Japan, asbestos barely cracked the headlines over the years, let alone the court system. It was only last October that Tokyo finally banned asbestos in all but a handful of products—14 years after similar action in the U.S. Even then the government implemented no measures to prevent asbestos—once widely used as fire-retardant insulation—from being released into the air as older buildings were renovated or torn down.

Today the carcinogen is suddenly big news from Kyushu to Hokkaido. On June 29, farm machinery maker Kubota Corp. acknowledged, in response to inquiries from the daily *Mainichi Shimbun*, that since 1978, 79 of its workers had died after inhaling asbestos fibers. Within days dozens of companies reported previously undisclosed fatalities blamed on asbestos. Now the government is scrambling to explain why it paid scant attention to the issue for so long. "We should have banned asbestos sooner," Health, Labor, & Welfare Minister Hidehisa Otsuji told a parliamentary committee on Aug. 3.

Some of Japan Inc.'s biggest names are grappling with the problem. Workers at top steelmaker JFE Holdings were exposed to asbestos in insulation until the company stopped using it in the 1970s. Taiheiyō Cement



TOO LITTLE, TOO LATE? Cleaning up a grade school

Corp., Japan's leading cement producer, made asbestos tiles and insulation. Sumitomo Heavy Industries and Mitsubishi Heavy Industries installed asbestos insulation in ships. "Asbestos is still around in so many forms, it's like an environmental time bomb waiting to go off," says Hirotsada Hirose, a Tokyo Women's Christian University professor.

The government has tried to calm an uneasy public. In recent weeks it has set up phone banks to field calls from citizens worried about

asbestos exposure and toughened regulations on demolishing buildings. The government estimates that 6,060 people died of mesothelioma—a cancer caused by asbestos—from 1995 to 2003. That's a fraction of the 200,000-plus deaths in the U.S. that have been blamed on asbestos over the past 40 years, but Japan's statistics are incomplete because it only began keeping track in 1995 as the toll mounted. Given the country's tardy response to the problem, the number may continue to climb for decades to come, since asbestos fibers can remain in the body for 40 years before developing into cancer.

With a parliamentary election in September, it could be months before lawmakers debate compensation for those exposed to asbestos. After revealing its asbestos problem, Kubota acknowledged that it had paid "condolence money" of up to \$270,000 to the families of dozens of workers. Kubota says its prompt action after halting asbestos production in 2001 may help it avoid lawsuits. Other corporations say they followed Kubota's lead to avoid the appearance of a coverup. Nonetheless, "companies should be held responsible for paying some of the damages to victims," says Satomi Ushijima,

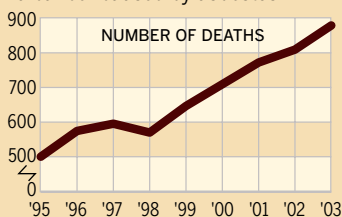
who chairs a Tokyo Bar Assn. committee on asbestos.

So far, Japan's track record on compensation isn't terrific. Japanese culture shuns the notion of legal redress through the courts, and class actions are banned, so only a handful of asbestos-related cases have been brought. On Aug. 3, the Supreme Court threw out a lawsuit by the wife of a man who died of mesothelioma but whose only traceable link to asbestos had been his father, a factory worker. And just 848 people with mesothelioma or asbestos-related lung cancer have applied for free medical treatment under workers' compensation. The country is finally catching up with the rest of the world on asbestos removal. Now it must care for those who have already been exposed. ■

—By Kenji Hall in Tokyo

GROWING TOLL

Deaths in Japan from mesothelioma, a cancer caused by asbestos*



*DOESN'T INCLUDE LUNG CANCER AND OTHER AILMENTS OFTEN ATTRIBUTED TO ASBESTOS INHALATION

Data: Health, Welfare, & Labor Ministry (Japan)



BARCELONA ACS
staffers hail from
38 countries

SPAIN

CAFES, BEACHES, AND CALL CENTERS

Fair-weather Spain is the new European hot spot for outsourcing

THE 2002 HIT FRENCH movie *L'Auberge Espagnole* captured the zeitgeist of Barcelona. In the film, a group of college students from all over Europe shares an apartment (and occasionally each others' beds) and bond over beer and music. But it's all a bit of a fantasy. In the real Barcelona, those kids would more likely be working at one of the many call centers springing up around the city.

After a slow start, Europe is finally jumping on the outsourcing bandwagon. Consultancy TPI of Woodlands, Tex., figures that European companies awarded \$41 billion in outsourcing contracts in 2004, nearly twice the level of two years earlier. One of the hottest destinations for the work is Spain, where thousands of young

Europeans flock every year in search of sun and sangria—and jobs. Already some 50,000 people from all over Europe work in more than 2,000 Spanish call centers and so-called shared service centers, which handle functions such as tech support, accounting, and personnel administration. London-based Datamonitor PLC says the industry will add 30,000 jobs in the next two years.

Spain's appeal is easy to fathom. Wages for service-center workers are

about 30% lower than in northern Europe. But that's not the only reason multinationals such as Avis, Hewlett-Packard, Nestlé, and Citigroup have set up shop there. In a business where employee turnover is a big problem, quality of life makes a crucial difference in attracting and retaining talent. "Instead of sitting in ten inches of snow in Poland, wouldn't you rather be sitting in ten inches of warm sand in Barcelona?" asks Stephen A. Koutros, a partner at TPI.

Other locales, such as India and Eastern Europe, are also grabbing big call-center business. But Spain retains some potent advantages, especially for European companies looking to "nearshore" work close to home. Because it's part of the European Union, people from anywhere in the EU can work there without visas or permits. And Spanish facilities can handle sensitive banking and medical transactions that aren't allowed to be sent outside the EU.

WAGE PROBLEMS?

THAT'S ONE REASON Dallas-based Affiliated Computer Services Inc. (ACS) set up shop in Barcelona three years ago. The \$5-billion-a-year company, which specializes in tech support and back-office outsourcing, has nearly 500 employees there. They hail from 38 countries and speak 14 languages. Most of them provide service to General Motors Europe. One group of 300 handles finance functions, including \$50 billion a year in accounts payable. The remaining 150 administer GM's European human resources, fielding calls from the company's European workers and retirees who have questions about benefits or paychecks.

For all its allure, Spain must contend with wages that have climbed 36% for the country as a whole since 1998. That's what hurt growth in the Irish service-center industry. Yet Spain's outsourcing trend shows no sign of letting up. French

information-technology services outfit Teamlog is expanding its 120-person European help center for Hewlett-Packard outside Barcelona. Eric Lemeilleur, who runs the operation, concedes with a laugh that "most employees here know *L'Auberge Espagnole* by heart." All that beer and free love are paying off for Spain's economy. ■

—By Andy Reinhardt
in Barcelona, with Carla Vitzthum in Madrid

Follow the Sun

Companies are flocking to Barcelona to set up back-office and call-center operations. A sampling:

CITIGROUP has 1,200 employees handling customer support and internal services for Western Europe

GENERAL MOTORS has outsourced its European accounting, financial services, and HR support to 450 employees of U.S.-based IT services company ACS

HEWLETT-PACKARD handles internal and some external tech support using 120 staffers from French IT services outfit Teamlog

AGILENT TECHNOLOGIES runs administration, finance, and customer service for Europe, the Mideast, and South America using 600 staffers

Data: Company reports, Trade Commission of Spain

EDITED BY DAVID ROCKS

China and India: A Rage for Oil

AMERICAN ATTENTION has lately been focused on China's emergence as a competitor for dwindling oil supplies—witness the uproar over CNOOC Ltd.'s failed bid for California's Unocal Corp. But a different, yet equally intense, energy rivalry sure to have a dramatic effect on geopolitics has been playing out on

the far side of the globe. Asia's other emerging powerhouse, India, is just as hungry for supplies as China. The two are battling each other in oil patches from Sudan to Siberia as they try to secure the resources to fuel their growing economies. So far, the Chinese have the upper hand in the competition.

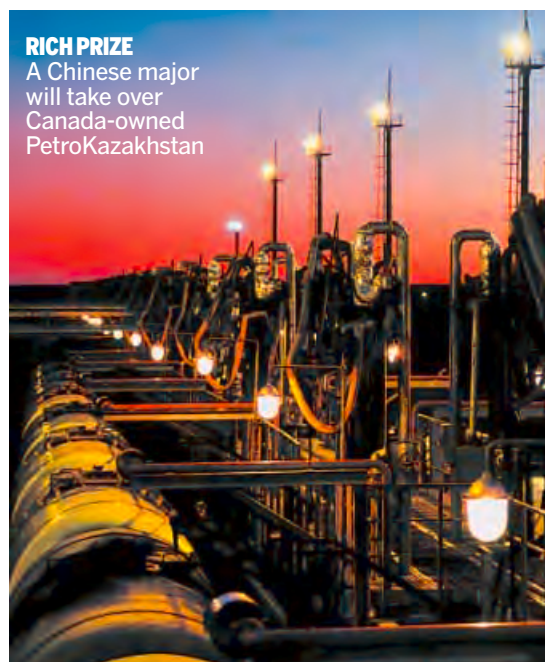
The latest skirmish came on Aug. 22, when the board of PetroKazakhstan Inc., a Canadian-owned company with oil fields in Central Asia, accepted a \$4.2 billion takeover bid by state-owned China National Petroleum Corp. CNPC beat a \$3.6 billion offer from India's own state-owned giant, Oil & Natural Gas Corp. ONGC has said it may make a counteroffer, but the competition has already pushed the price into the stratosphere. CNPC's bid was a 21.1% premium on the price of PetroKazakhstan's shares. And it values the company's proven reserves at \$10.26 per barrel—20% more than the market valuation of CNPC's own reserves, according to United Financial Group, a Moscow investment bank.

The upper hand

BOTH OF ASIA'S rising powers desperately need energy. China today imports roughly half its oil. Consumption rose by 15% last year and is forecast to jump by an additional 9% this year. By 2025, China will burn through 14.2 million barrels a day, double this year's level, the U.S. Energy Dept. predicts. India's oil imports are expected to rise to some 5 million barrels a day by 2020, from around 1.4 million barrels at present.

The Chinese are gaining ground in Russia. Last December both New Delhi and Beijing negotiated with Moscow as it

**Beijing has
the upper
hand now.
But Moscow
is old friends
with Delhi**



RICH PRIZE
A Chinese major
will take over
Canada-owned
PetroKazakhstan

sought financing for its \$9 billion renationalization of Yuganskneftegaz, the core production subsidiary of the troubled oil major Yukos. Although neither Asian rival walked away with equity in the Russian company, the Chinese ended up lending the Russians \$6 billion in return for guaranteed oil supplies at a bargain price. And in Angola last year, China Petrochemical Corp. (better known as SINOPEC) beat ONGC in bidding for an oil exploration block being sold by Shell Oil Co.

That's largely because China has greater financial muscle. In the past five years, CNPC has invested \$45 billion in

new energy sources, compared with ONGC's \$3.5 billion. Another problem, some grumble, is India's democratic—and therefore slow—political system, which may make it harder for ONGC to jump at investment opportunities abroad. "Whenever we've seen the Indians and Chinese tussle, the Chinese have been faster and more aggressive in attaining their objective," says Stephen O'Sullivan, head of research at United Financial Group.

Feelings of mistrust

BUT DON'T COUNT India out yet. The country's hopes of international expansion are being kindled by Delhi's energetic Petroleum & Natural Gas Minister, Mani Shankar Aiyar. And despite China's deal

with Russia after the competition for Yuganskneftegaz, India holds some strong cards with regard to Russia, which is rapidly emerging as a key source for Asia's energy needs. Moscow has a friendship with Delhi that dates to the Cold War—while the Kremlin has long viewed Beijing with mistrust. India and Russia have been busy bolstering their extensive military and scientific ties, most recently through Delhi's Aug. 16 purchase of 250 Russian engines for use in a new Indian military jet trainer. India has already invested \$1.7 billion in Sakhalin-1, a major oil-and-gas field off Russia's Pacific coast, and recently committed an additional \$3 billion for investments in other projects.

China, meanwhile, is emerging as a player in Central Asia. Beijing has signaled its support for the region's authoritarian leaders, who face criticism in the West and the threat of unrest at home. And Kazakhstan has a strong economic incentive to look to China, the closest and most obvious major market for its oil. PetroKazakhstan has proven reserves of 535 million barrels and produces 150,000 barrels a day. Much of that will probably be processed at Chinese refineries following the completion of a pipeline between the two countries.

As the global economic balance shifts toward Asia in the decades ahead, China and India may well cooperate in many spheres. Energy, clearly, will not be among them. ■

—By Jason Bush in Moscow

PETROKAZAKHSTAN VIA BLOOMBERG NEWS



CONGDON AND BARON They mock everything from tech to pop culture

& Jerry's ice cream. Don't bother looking for Congdon on your cable channel lineup.

Rocketboom is a video blog, posted at rocketboom.com, and in 10 months it has become the most popular site of its kind on the Net. The brainchild of former musician Andrew Michael Baron, who writes the shows with Congdon, the three-minute mock news program covers everything from tech trends to pop culture with frank irreverence, sly humor, and a big dollop of unabashed silliness.

The approach is resonating with viewers. Daily downloads have doubled in the past six weeks, to 50,000. If they stay on that pace, they'll soon approach the 200,000 viewers of an established cable show, such as CNBC's Kudlow & Cramer. "There was this excitement early on that we videobloggers were at the forefront of something, but we didn't know what would happen," says Baron.

These are the early days of video blogging. Most of the postings on the Web are rough and tedious—little more than home movies. But the success of Rocketboom and a few sites like it underscore the potential of video blogs. Cheaper video recorders mean just about anyone can make videos, while the spread of speedy Net service means almost anybody can watch clips posted online. The result? The Internet is coming alive with a mix of video, from the polished parody of Rocketboom to the raw interviews of re-

Rocketboom's Powerful Lift-Off

The news spoof is a model for video blogs—and may transform the way TV is viewed

AS THE VIDEO OPENS, the young woman zips in from the left side of the screen, rolling her chair into place, behind a laminated desk and in front of a world map. "I'm Amanda Congdon, and this is Rocketboom," says the blonde with a big grin, explaining that today's show will be an experiment in rapid-fire dispatches. With that, she shoots out of the screen to the right, reappearing from the left seconds later to report that *American Idol* fans cast 41 million votes by cell phone during the show's contest. "Damn," she deadpans.

RUSSIA Congdon gives the audience a whimsical taste of what she did on her summer vacation

"That's more than voted for the President." She pauses, tips her head. "Well, maybe not." Then, zap, Congdon is yanked off the set once again and reappears to report on an iPod vending machine. Congdon rounds out the show with a spoof of a weather station pushing a "supercalifragilisticexpialidoppler" machine and a report on a \$5.50 lock for Ben

porters. As these videos flow into the living room, they will reshape what we think of as television. "TV will be transformed," says Mitchell Kapor, the founder of Lotus Development Corp. and now an investor in Participatory Culture, an online video startup. "People will look at it as historically quaint that you had to watch something that others chose for you."

Congdon and Baron have no doubt their quirky show is the future. So while Rocketboom shows are lighthearted, the two are dead seri-

ANCHOR DESK
Reading the news and talking to ex-Vice-Presidential candidate Senator John Edwards



JORDAN HOLLENDER

ous about their work. They post new episodes every weekday morning, beginning the process by looking online for news and reading through suggestions from viewers and six correspondents in the U.S. and Europe. After e-mailing the script back and forth, they meet around 6 p.m. in downtown Manhattan to record the show in a pea-green conference room in a turn-of-the-century building.

SUBSCRIPTION FEE?

TAPING USUALLY takes about an hour and a half. The duo have detailed discussions about whether to throw out certain lines or how Congdon should move her head. One evening in late July, they do 15 takes for a 20-second segment on couples using their own bone chips to grow rings—for jewelry. They jettison one joke and work out the length of a pause before the punch line. On the final take, Baron watches Congdon intently through the camera. “The process takes a month,” she says, pausing slightly before cocking her eyebrow. “But the results last a lifetime.” She continues looking into the camera until Baron, in his Texas Hill Country accent, says: “I think that’s it, don’t you?” After the taping, Baron heads to his Upper West Side apartment to tackle the editing, typically two to three hours more.

With Rocketboom’s one-year anniversary approaching, the duo are planning their next steps. In the fall, they’ll experiment with a subscription fee of around \$3.50 a month. The three-minute show

The Download on Rocketboom

Only 10 months old, Rocketboom has become the most popular video blog on the Net. Here’s the skinny on the site:

WHAT A three-minute mock news show.

WHERE On the Web at Rocketboom.com.

WHEN New shows are posted Monday through Friday at 9 a.m. All previous shows are available in the archive.

WHO Former musician Andrew Michael Baron founded Rocketboom and brought in actress Amanda Congdon as the breezy blonde anchor and co-writer.

HOW The show combines sly, humorous news reports, à la Comedy Central’s Jon Stewart, with the community dialogue of a blog. Viewers post praise or critiques, suggest topics to cover, and send in their homemade videos for use on the show.

People like Joan are the reason for an investment firm like ours.

RAYMOND JAMES

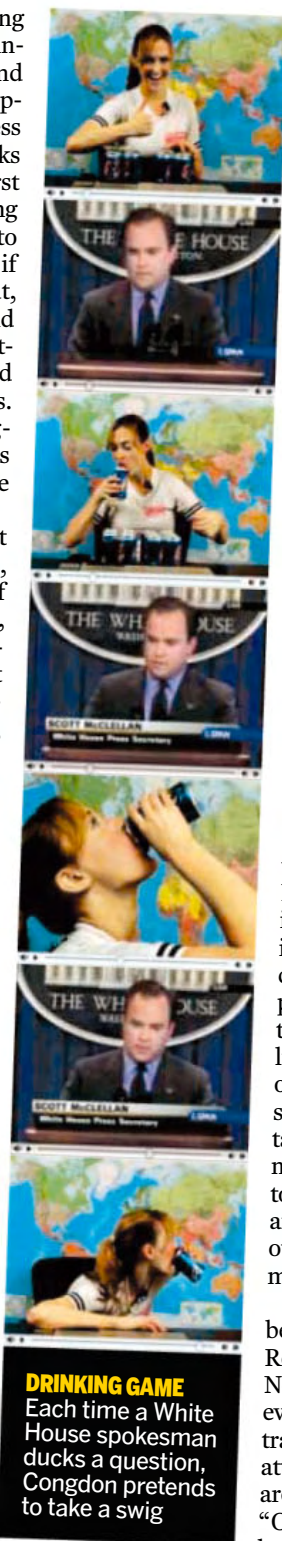
Joan Mira, 54, Attorney. Son Jordan attends private college in Chicago. Joan hopes to retire and open a coffee house. She'd like to call it "Joan's Place."

Technology Video Blogs

will remain free, but paying customers will get extras, including longer shows and outtakes. Although subscriptions have had spotty success online, the Rocketboom folks want to test this route first rather than potentially having to change their show to please advertisers. Still, if subscriptions don't pan out, they'll turn to ads to fund their ambitious plan of creating a network of shows and hiring writers and hosts. "We have big ideas," Congdon says. "People laugh at us all the time, but we figure we have to start somewhere."

For two people who didn't know each other a year ago, they share a strong sense of mission. Baron, now 35, spent his 20s in Austin playing in bands, running an art gallery, and supporting himself with tech jobs. In 2001, he moved to New York for grad school, studying computing and video at Parsons School of Design. The flurry of online videos during the Presidential election was an epiphany for Baron, who hasn't owned a TV in a decade. "Suddenly, online video was easy," he says. He came up with the idea for a mock newscast and posted an ad for an actress on the online ad service Craigslist last summer. After getting 450 responses, he hired Congdon for \$50 a show in September.

At the time, Congdon knew little about technology and even less about blogging. The 24-year-old comes from an acting family; both her parents worked on Broadway. She dove into drama a couple of years ago after studying communications at Northwestern University and working briefly at ad agency Saatchi & Saatchi. A whirl of jobs followed an appearance as the coat-check girl on NBC's *The Restaurant* in 2004, but that had slowed by the time Baron posted his ad. After first meeting him at a little studio in Chinatown, she was won over and has become a co-owner of the business.



"This is something so innovative, I wouldn't want to stop doing it," she says. "I feel almost as if we could end up in history books."

While Rocketboom looks like an offbeat news show, it's like a typical blog in how it fosters a community. The site uses videos sent in by viewers and is building up a network of correspondents. The latter include Zadie Diaz in Los Angeles and Chuck Olsen in Minneapolis, who report on local happenings for \$50 a piece. In July, Diaz stopped into a comic book convention in San Diego, sending in a comic book-like collage of mock light-saber fights and people walking the floors in Superman and Willy Wonka costumes.

Established outlets, such as ABC and CBS are tracking video blogging and taking some tentative steps. Larry Kramer, the new head of CBS's digital efforts, is plunging into creating traditional blogs that will have some video. ABC News agrees it needs to reach its audience wherever it is, but is more skeptical of the overall quality of today's video blogs or podcasts. While both are putting more traditional video online, neither plans stand-alone ongoing video blogs, which some observers think is a mistake. "Rocketboom is a great model that could be used to try to leverage all this talent sitting around CBS, ABC, and the other outlets," says Merrill Brown, a media consultant.

Major broadcasters may not be paying close attention to Rocketboom, but others are. New video blogs are popping up every day and many are closely tracking Baron and Congdon's attempts to build a business around their budding popularity. "Once Andrew can figure out a business model that other people can copy, we will have a thousand Rocketbooms," says Jay Dedman, co-founder of the pioneering Videoblogging.info community group. So if you've got 200 cable channels and nothing to watch, rest assured. More choices are on the way. ■

—By Heather Green in New York

Retiring early.

Caring for two generations.

Saving for twins' college.

Enjoying investment income.

You and your financial needs are unique. Raymond James financial advisors understand that. In addition to one of the most comprehensive ranges of financial services anywhere, they have complete freedom to offer unbiased advice that's right for you. That's a promise from one of the first firms to focus on individual financial planning. And it's why some of the best advisors have chosen to work with us. There's a culture of independence here. One that's focused on the individual. One that works.

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How To Face Off Against Microsoft

Intuit has repelled the software giant six times. Now it's defending its largest business

THINK OF IT AS THE TECH industry version of a pre-season football scrimmage. On May 10, Intuit Inc.'s top 40 managers decamped from their Mountain View (Calif.) campus for a hotel in nearby Palo Alto. They were divided into two groups: one representing Intuit, the other archrival Microsoft Corp. The Microsoft team came up with a plan of attack against Intuit's small-biz accounting software, QuickBooks. Team Intuit responded. Throughout the day, the mastermind behind the event, QuickBooks General Manager Brad D. Smith, sent out mock press releases with titles such as "Microsoft slashes prices," forcing both teams to scramble.

Smith's goal: to train Intuit managers to handle the equivalent of football's no-huddle offense. "You've got to be able to go out, read the situation in real time, and have a set of scenarios in your back pocket," says the 41-year-old, who attended West Point and worked at PepsiCo Inc. and check processor ADP. "The decision-making power is out in the front lines because that's where the action happens."

On Sept. 7 the role-playing becomes reality. Microsoft is expected to release a new software product, Microsoft Small Business Accounting, in a direct attack on QuickBooks. The giant is angling for a chunk of the \$600 million small-business accounting market dominated by Intuit. Two months later, Intuit will respond with a new, improved QuickBooks, code-named Denali. The outcome is crucial for Intuit since the QuickBooks franchise ac-

counts for more than 40% of its revenues. Indeed, this is the biggest threat from Microsoft since it took aim at Intuit's Quick-Check checkbook software in the 1990s—a brutal battle that Intuit eventually won.

It's also a critical moment for Intuit Chief Executive Stephen M. Bennett. After arriving five years ago from General Electric Co., Bennett took a company with a stellar reputation for customer relations and focused intensely on execution, increasing revenues from \$801 million in 1999 to \$1.8 billion last year. Operating margins jumped from 15.6% to 25.7%. Yet this is the first serious new threat from Microsoft with Bennett at the helm, and he's eager to prove himself. "I knew they were coming when I took this job," he says.

"And I can see the whites of their eyes now."

His strategy: keep doing the things that have made Intuit successful, with a surprise or two to knock Microsoft off balance. Intuit is known for its easy-to-use products. Now it's simplifying the user interface even more and adding sophisticated features in higher-end versions, such as improved auditing capabilities. One

surprise came on Aug. 24 when Intuit, at Smith's urging, broke with its long-standing tradition and preannounced the new QuickBooks package. Smith wanted customers to know Intuit had something right around the corner when Microsoft launched Small Business Accounting.

Microsoft brings potent weapons to the fight. Many small businesses already use its Excel spreadsheet for accounting and Outlook for client management. While Microsoft has been selling accounting software to small businesses for several

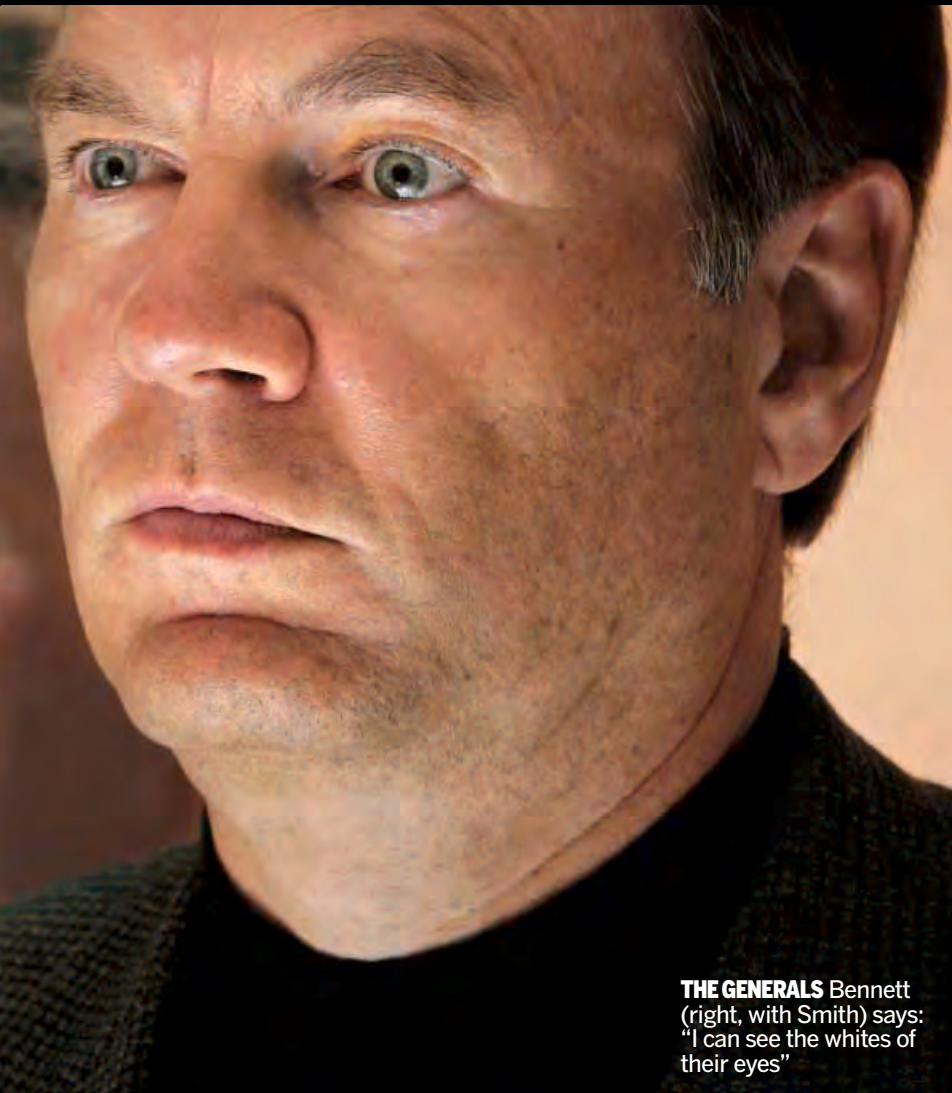
Intuit gets more than 40% of its sales from the small-biz market

years, this is the first time it has designed a product specifically for them—it even hired cultural anthropologists to learn their ways. The results struck a cord with bookkeeper Mae Farrow of Ironwood Self Storage in Idaho Falls, Idaho. She switched to the test version of Small Business Accounting because it's more sophisticated, offering double-entry accounting rather than the simple checkbook-style process in QuickBooks. "I do not enjoy using QuickBooks because it was not made for someone who knows what they are doing with books," she says. Microsoft officials declined to comment prior to their announcement.

There's enough doubt to make it a lively contest, but analysts are betting on Intuit. Most believe Intuit will beat back the challenge thanks to its intense focus on the market—while Microsoft is spread out. Intuit has been catering to small businesses for a decade and responding quickly to their shifting needs, plus it has a network of 200,000 accountants who



MARTIN KLIMEK



THE GENERALS Bennett (right, with Smith) says: "I can see the whites of their eyes"

Intuit's Battle Plan

On Sept. 7, Microsoft will take on Intuit's biggest revenue generator—its QuickBooks small-business accounting software. Here are the elements of Intuit's counterattack:

BEAT 'EM TO THE PUNCH Intuit broke with its usual tactics and pre-announced its new QuickBooks release, code-named "Denali." The unveiling came on Aug. 24, even though Denali won't hit stores until November, so that Intuit can get ahead of Microsoft's September product launch.

JAZZ UP RETAIL SELLING Intuit will repackage all of its QuickBooks versions so it's clear what kind of business each one targets. It also plans aggressive promotions and rebates.

WIN OVER BEAN COUNTERS Independent accountants have a tremendous influence over their clients' software choices, so Intuit is conducting an 80-city evangelizing tour to whet their appetites for the new versions.

IMPROVE SERVICE Intuit has reorganized its call center in Tucson. Now, when a small business calls with a question, it will get an expert in its specific flavor of QuickBooks, not a generalist.

recommend QuickBooks. As a result, Intuit has an overwhelming 74% market share at retail and 3 million customers.

One of QuickBooks' key advantages is its SimpleStart version. At a cost of just \$99, it's aimed at first-timers such as Leslie Anderson, owner of classic car dealership Blue Oval Ranch in Salem, Ore. Thanks to its simplicity, the software saves her 10 hours a week on bookkeeping. "I needed something I could just let do the work for me," she says. Intuit's lock on the smallest businesses, like Anderson's, seems likely to hold up, since Microsoft's product is expected to run \$200 and is crafted for larger and more sophisticated outfits. Landing customers when they start out gives Intuit a better chance of keeping them as they grow.

Small-business accounting software has been Bennett's pet project since he became CEO in 2000. Sales were solid, but he knew they could be better. "We were fat, dumb, and happy," he says. So he used QuickBooks as a model for how

Intuit could improve. He even put in two stints leading the business unit.

When Bennett was hired, there were only two QuickBooks products, Basic and Pro. But Basic was too complex for companies with just a few employees, and Pro was too constrictive for companies with more than 20 staffers. He has since added 21 versions, including one for companies with as many as 250 employees, packages for particular industries, and SimpleStart. Analysts say this strategy has put Intuit in a much stronger position for a fight with Microsoft. "If I'm a small business, I know I can grow with Intuit. They have a road map," says analyst Mika Krammer of market researcher Gartner Inc.

"A PASSIONATE LEADER"

BUT BENNETT KNEW he needed to do more to beat back a frontal assault from Microsoft. When he learned last November that Microsoft had a QuickBooks-killer in the works, he launched a series of strategy sessions aimed at beefing up the

features in Denali and coming up with an aggressive marketing push.

Bennett's smartest move may have been picking Smith to run the campaign. Smith had proved himself by boosting Intuit's tax-software business, TurboTax, in just one year at the helm. After customer research showed that only about a quarter of tax filers were comfortable using software to do their taxes, he went after first-timers through marketing outreach partnerships with hip-hop impresario Russell Simmons, retailer Best Buy, and travel site Expedia.com. The result: Unit sales rose 27%, and Intuit boosted its market share from 70% to 78%.

Smith, a fast-talking, self-described "hillbilly" from Kenova, West Virginia (pop. 3,500), contrasts sharply with Bennett's controlled GE style. Bennett knew he had a good strategy but needed a passionate leader to rally the troops. "Brad is one of the best I've ever seen at winning the hearts and minds of employees," he says. When Bennett asked Smith to run Quick-

Books in May, Smith didn't hesitate. "Anytime there's a scrap out there, I'll sign up for it," he says.

After he took the job, Smith dove right in. At a July 20 staff meeting he gave every QuickBooks worker a copy of a children's book, *The 300*, recounting the tale of how 300 Spartans fought off a Persian army of thousands. Reading the synopsis of the battle on the back cover, he paused, shivered, and said: "I feel ready for a group hug!" to applause and laughter. Smith displays the book and a small Greek action figure in his sparse office. "Yes, it's Microsoft, and their assets look vast. But this is Intuit. We know what we stand for, and we've seen them before," he says. "So they can bring it on."

ROUND SEVEN

INDEED, INTUIT HAS SEEN Microsoft many times before. They've had six previous head-to-head contests—all of which Intuit has won. The last time the two tangled, it was over tax-preparation software. After much anticipation, Microsoft released TaxSaver in late 1999 but withdrew from the market in March, 2000, before the tax filing deadline. Despite its brand name and marketing power, it had won only 4% market share.

It's hard to believe Microsoft will do as poorly this time, but early signs are that QuickBooks will prove hard to dislodge. Farrow, the self-storage proprietor who's switching to Small Business Accounting, acknowledges that four companies who use her to do their bookkeeping are sticking with QuickBooks. Steven Menasche, owner of martial arts studio Hapkido Institute in San Francisco, thought about switching from QuickBooks because he liked the idea of integrating Microsoft accounting software with Microsoft's Outlook e-mail and other products. But he balked in the end. Some technical glitches in the beta version factored into his decision. Even more important, his wife, who has done consulting work for dozens of small businesses, is "fluent" in QuickBooks. "If I went with Microsoft, she couldn't help me," he says.

That kind of grassroots popularity might be Intuit's biggest edge. According to Intuit founder Scott Cook, now chairman of its executive committee, when Bill Gates proposed a merger with Microsoft in 1995, he told Cook: "I can copy your products, but I can't copy your word of mouth." Ten years later, it's still true. And that bodes well for the home team. ■

—By Sarah Lacy in San Mateo, Calif.,
with Jay Greene in Seattle



Maybe in My Backyard

High fuel prices and global warming are making nukes an easier sell

HOBbled by images of Three Mile Island and Chernobyl, staggering costs, and opposition from enviros and politicians, nuclear power once seemed destined to go the way of the dodo. "Just five years ago, utility executives were saying they wouldn't be caught dead even talking about a new plant," recalls Massachusetts Institute of Technology nuclear engineer Andrew C. Kadak. U.S. utilities were shutting reactors, and Germany planned to pull the plug on its facilities.

Today, nukes are on the verge of a global comeback. A new plant is under

construction in Finland, the first in Europe since 1991. France, which already has 58 plants, says it will build 30 more. China plans to spend \$50 billion on atomic energy construction by 2020. In the U.S., where 103 existing reactors have become cash cows, a dozen companies are seriously considering building new plants. And the energy bill signed by President George W. Bush on Aug. 8 has billions of dollars in subsidies. "Things have never looked better," says Dan R. Keuter, vice-president for business development at Entergy Nuclear in New Orleans.

What's fueling this resurgence? In a word, economics. Rising natural gas and

ANNE RYAN/POLARIS



BYRON, ILL.
Some areas
are actively
seeking new
plants

coal prices are starting to make nukes look inexpensive. Another factor is global warming. Not only do new restrictions on emissions of carbon dioxide increase the costs of fossil fuel-generated electricity, fears of climate change have softened opposition among some enviros. While the government must still solve problems of waste and security, says Steve Cochran of Environmental Defense, “given the challenge of climate change, the world needs to be open to every low carbon initiative—including nuclear power.”

Construction in the U.S. won’t start tomorrow, however. There are still major uncertainties. Natural gas prices must stay high to make nukes economical. With increasing imports of liquefied natural gas, that’s not a sure thing. Utilities must also convince Wall Street that the long delays and huge cost overruns that doomed N-power in the 1980s won’t happen again.

As a result, companies say they won’t order a new plant until they are sure they can get a license from the Nuclear Regulatory Commission, a process expected to take four to five years. “At the very earliest, we are looking at construction starting around 2010,” says Adrian Heymer, director of new plants deployment at the Nuclear Energy Institute. Since construction would take four to five years, electrons from the new nukes couldn’t start flowing until 2014 or 2015 at the soonest.

It could be longer than that. John W. Rowe, chairman and CEO of Exelon Corp., believes that a new generation of reactors is essential. But even though Chicago-based Exelon is the nation’s biggest nuclear utility, with 17 reactors, Rowe says the risks are still too great to order new plants now. “While the stars and moons are moving in the right direction, they’re not there yet for us,” he says.

FRUSTRATION FACTOR

THE LACK OF immediate action frustrates Washington politicians, who crafted energy legislation that, among other things, was designed to make nukes nice again. The bill offers government loan guarantees so that banks won’t demand a risk premium when financing new reactors, and a production tax credit. It also provides up to \$2 billion to cover costs associated with regulatory delays. That’s on top of changes Congress made to the licensing process in 1992. “For anyone who says there is still too much regulatory uncertainty, I have to question how serious they are,” says one Senate staffer. Congress has “piled yet one more security blanket on the pile of blankets,” he says.

Industry execs insist that new plants will be built, but say they are getting there one step at a time. “No one would make a decision to order a plant now,” explains Michael J. Wallace, executive vice-president of Constellation Energy Group. The Baltimore utility and others, however, are already partway there. Entergy, Exelon, and Dominion have filed applications with the NRC to get three sites licensed for new reactors. Reactor makers Westinghouse, General Electric, and Areva, which is building the Finland

New nukes won’t come on line until 2014—at the earliest

plant, have filed or will soon file applications to get new designs certified by the agency. A group of eight U.S. power companies, called NuStart Energy Development, is working on applications for construction and operating licenses for the GE and Westinghouse designs.

Meanwhile, the public has become more accepting. The percentage of Americans who favor nuclear power jumped from 46% in 1995 to 70% in May, 2005, according to Bisconti Research. Some communities are actually backing new plants. In Calvert County, Md., where Constellation Energy has proposed adding a new reactor to an existing facility, “we are doing everything we can to see that kind of investment made in the county,” says David Hale, president of the county board of commissioners.

There have also been technological improvements. The basic approach hasn’t changed, but new designs are easier to build and operate—and better able to handle problems. They are “more safe by an order of magnitude,” says MIT’s Kadak. The industry expects progress on the waste front as well. New radiation exposure limits proposed by the Environmental Protection Agency for the Yucca Mountain repository in Nevada in early August could pave the way for the facility to eventually accept waste.

Add it up, and nukes no longer look like dodos. “What we are seeing is an economic change that is beginning to overwhelm the construction and licensing risks,” says Thomas A. Christopher, CEO of Framatome ANP Inc., a unit of France’s Areva. A new 1,000-MW plant is expected to cost at least \$1.5 billion. That compares with \$1.2 billion for a new coal plant or \$500 million for a gas-fired facility, which is quicker to build. But utilities have learned to run reactors more efficiently, making existing nukes cheap producers of power.

Now they figure that with natural gas prices tripling and coal prices doubling over the past five years, new nuke plants will be gold mines. “What we have to do is build the first two to six plants and prove to Wall Street that we can do it on schedule,” says Entergy’s Keuter. If that happens, the mid-21st century could be a new Atomic Age. ■

—By John Carey in Washington,
with bureau reports

Nukes: Gaining Acceptance

Are you in favor of nuclear power as a source of electricity?

1995	2005
46%	70%

Based on telephone surveys of 1,000 adults, with a margin of error of plus or minus 3 percentage points

Data: Bisconti Research



B-Schools With a Niche

With applications falling, mid-tier programs are crafting specialized degrees

TWO YEARS AGO, THE University of Wisconsin-Madison's School of Business was in trouble. Like many of its peers, it had seen full-time applications drop 30% in three years, and the situation was likely to get worse. So

Michael M. Knetter did something a lot more deans are doing these days: He specialized.

Scrapping the general management MBA altogether in 2004, he replaced it with 13 distinct degrees in everything from arts administration to applied corporate finance. The result: a smaller but smarter class, with admissions test scores up 25 points. Says Knetter: "We want to be

the school of choice for students who have a clear vision from the outset."

While the Harvards and Whartons of the world aren't facing similar problems, mid-tier schools like Wisconsin increasingly find themselves in a crowded field. To stand out from the pack they're creating specialized programs that give students

Pick an Industry

Creating specialized programs, like health-care MBAs or sports management MBAs, allows mid-tier schools to stand out

PROS

- Specialties often attract focused, dedicated students with higher test scores
- Companies often supply targeted internships and career opportunities
- Focus on a single industry creates a more cohesive program

CONS

- Focus on a specialty could gloss over the basics, such as finance or marketing
- Narrower appeal could result in a smaller pool of applicants
- Less diverse student body might diminish educational experience

Data: BusinessWeek

AT WISCONSIN Erin McLennon is getting an arts administration MBA

the kind of targeted, real-world experience sometimes lacking in traditional MBAs.

Across the country, these schools are developing MBAs that focus on health care, real estate, even sports management.

As a strategy, specialization seems to be working. At many schools that have pursued it, the decline in applications has stopped, and in at least one case, even reversed. At Boston University's School of Management, there was a 29% increase in applications in 2005, four years after it combined an MS in information systems with an MBA. At schools where the application decline has proved irreversible, the specialized programs have attracted prospective students with higher Graduate Management Admission Test scores. Now student satisfaction is up, with fewer applicants turning down admission offers—all of which may ultimately result in higher rankings.

BROAD VIEW

HOWEVER, NO STRATEGY is perfect. By defining their mission too narrowly, schools run the risk of producing graduates with limited career choices, or alienating big recruiters—especially consulting companies—for whom the general MBA is preferable. Says Rich Schneider, a principal at Deloitte Consulting LLP, where he heads up the MBA recruiting practice, "B-schools need to ensure they're giving their students well-rounded capabilities. We're still looking at the things we were looking for 30 years ago."

Cognizant of that fact, some schools have concentrated their offerings on management specializations that have broad applications, such as leadership, creativity, and entrepreneurship. At Emory University's Goizueta Business School, leadership has been the program's focus since 2003. Students now take four first-year courses on the subject and are videotaped five times a year to an-

alyze public speaking skills. Says Associate Dean Kembrel Jones, "You need to do one thing and do one thing better than anybody else."

BASEBALL SYLLABUS

BUT WITH VIRTUALLY every MBA program in America claiming to teach so-called soft skills to some extent, schools that focus on them may be hard pressed to differentiate themselves. That's why many schools are choosing instead to build their specialties around specific industries. Rutgers Business School in Newark, for example, has offered a pharmaceutical management MBA since 2000 in partnership with seven area drug companies. And this year, San Diego State University launched an MBA program in sports management with the help of the hometown baseball team, the Padres.

Other schools have gone a different route. Some have transformed their programs into what amounts to a consulting

Grads may face limited career choices

firm, dispatching eager young MBA students to some of the world's biggest companies to solve their problems. For students at University of Minnesota's Carlson School of Management, that means spending 20 hours a week for three semesters doing everything from developing a new route for Northwest Airlines cargo service to streamlining operations at nearby Marvin Windows & Doors, where the students saved the company \$1 million in operating costs. Says Interim Dean Michael Houston, "I want students leaving here better prepared than any other MBA student in the country."

For mid-tier schools, battling it out with dozens of others for an ever-shrinking applicant pool doesn't have to be a permanent condition. By focusing their programs on a few well-chosen specialties, they believe they can make their degrees something they have never been before: a ticket to career success on par with the top-ranked B-schools. Not a bad approach, considering the alternative. ■

—By Lindsey Gerdes in New York

BusinessWeek online For a Q&A with the dean of Toronto b-school, and a list of other specialized MBA programs, go to businessweek.com/extras

Slimmer Kids, Fatter Profits?

Charles Davis, a Kraft food maven, is on a health kick. But then, he has no choice

MAKING CHEESE healthier is complicated. Add too much calcium, and it starts to taste chalky. Take out too much fat, and the cheese emerges from mechanical graters like Play-Doh. "It becomes a big glob instead of having good shredding integrity," says Charles W. Davis, vice-president of global technology and quality for convenient meals at Kraft Foods Inc.

Davis can tell you all about finding that delicate balance between what tastes good and what's good for you. Since 2004, the 48-year-old chemist has been leading a team of scientists, technicians, and engineers working to improve the nutritional content of Kraft's popular Lunchables Lunch Combinations line, a process known industrywide as reformulation. That means he has spent an inordinate amount of time experimenting not only with cheese but also with the juice drinks, crackers, deli meats, and fruit snacks that make up these all-in-one meals. If you count all 41 varieties of Lunchables, Davis has cut calories by an average of 10%, fat by 24%, and sodium by 20%.

Why do Davis and hundreds of other people throughout the company do nothing else but experiment in their kitchen labs all day? Because their employer has no choice. Kraft, the nation's largest food manufacturer, and its competitors risk becoming this decade's cig-

arette companies: vilified for pushing junk to children, restricted by often-conflicted regulators, challenged in court.

At Kraft, which was spun off from cigarette maker Altria Group, there is little appetite for those kind of problems. Two years ago the company saw trouble coming and devoted a major portion of its \$350 million-plus research and development budget to making its food healthier. Since then, Kraft has reformulated some 750 products, or more than 10% of its total sales by volume, and trimmed about 65 billion calories from consumers' diets. The company is even working on its icon-



PIZZA DE RESISTANCE Davis' revamped Lunchables best-seller makes its debut this fall

ic Oreo cookie to eliminate trans fats. "This is the single largest reformulation effort ever undertaken by the company," says Lance Friedmann, senior vice-president for global health and wellness.

The scientists' work is one piece of an even bigger health kick at Kraft. Every product that meets certain standards, which are based on U.S. dietary guidelines, is marketed as part of its Sensible Solution program. Kraft has also introduced 100-calorie packs of snack foods, such as the Wheat Thins Minis, and rewritten nutrition labels to include the entire contents of a small package, not just a single, impractically dainty serving. At the start of the year, Kraft went so far as to announce that it would stop hawking junk food





That's a good thing, because Lunchables, which were inspired by the Japanese *bento* box, is one of the most complicated reformulation projects under way at Kraft. Most food

products have only one or two components. Lunchables has hundreds. Davis also has a tough audience to please—kids, who won't hesitate to say something tastes gross (or not gross enough, for that matter).

Taking the sodium out of turkey, Davis says, was particularly tricky. Potassium, it turns out, is a good substitute for sodium, which is used not only for taste but also for texture and as a preservative. A 40% reduction in sodium made the turkey taste metallic and feel rubbery. But at 20%, kids couldn't tell the difference. He also figured out how to cut the sodium in the crackers—by putting the salt right on the Ritz. That may sound counterintuitive, but the initial flavor burst fools eaters into thinking they've got something saltier than they really do.

Davis' *pièce de résistance*, however, is the new Extra Cheesy Pizza and Pepperoni Flavored Sausage Pizza. They took nearly a year to develop and are hitting stores just as kids head back to school. Davis is anxiously awaiting the results: Pizzas have traditionally been best-sellers, accounting for 30% of the Lunchables' sales.

No ingredient was overlooked. He replaced the butter in the pizza crust with soybean oil to cut the trans fat. Instead of a chocolate dessert, there is a fruit-flavored one. The two revamped products have virtually no trans fat and 200% more fiber than before, and are the first reformulated Lunchables to meet the Sensible Solutions guidelines. Says Jeanne Goldberg, a professor of nutrition at Tufts University: "It's a step in the right direction." Now if Kraft can just slim down the Oreo. ■

—By Adrienne Carter in Madison, Wis.

in media that target kids under 12.

Aside from legal and PR worries, there's another reason for Kraft to take the issue of nutrition seriously: The \$53 billion company fully expects to profit from it. Food sales usually increase in small increments each year, generally as much as the population grows. But for the past two years Kraft's profits have declined, in part because of strong competition here and in Western Europe; its operating income in 2004 fell from \$5.9 billion on revenues of \$30.5 billion to \$4.6 billion on revenues of \$32 billion. Better-for-you foods offer companies a chance at faster growth and fatter profits. Sales of organic foods, for instance, have increased by 20% a year since 1997, according to the Organic Trade Assn.

Lunchables sure could use some of that juice. The line, first introduced by Oscar Mayer in 1988, has an 85% share of the \$750 million market for prepackaged kids' lunches. But increasing competition,

even from products such as Go-GURT, and a declining reputation among parents meant that sales increased by just 1.5% in the past year. Kraft hopes a leaner menu will get the meals back into lunch boxes. Will parents and kids bite? Possibly. Davis' team launched all-white meat chicken nugget Lunchables last year, new healthy meals. They are the fastest selling products in the portfolio.

'BALL OF ENERGY'

DAVIS, WHO TALKS as quickly as a 10-year-old on a sugar high, joined Kraft while studying at the University of Massachusetts in Lowell, met his wife on the job, and earned his bona fides with Crystal Light Lemonade in the early 1980s. More recently, he worked a nutritional world away on the launch of Philadelphia Cream Cheese dessert bars. In 2004 he moved to the convenient meals group, taking on the Lunchables makeover. "He's a ball of energy," says Friedmann.

A Tale in **Numbers**

The skinny on the new, healthier Extra Cheesy Pizza Lunchables

	CALORIES	FAT	CHOLESTEROL	SODIUM	CARBOHYDRATES	FIBER	SUGARS	PROTEIN
BEFORE	470	16g	30mg	770mg	66g	1g	36g	19g
AFTER	450	11g	25mg	670mg	72g	3g	36g	17g

DRUGS GET SMART

New medicines will more effectively target what ails you—and help prevent another Vioxx

BY KERRY CAPELL AND MICHAEL ARNDT, WITH JOHN CAREY

On the day Dr. John P. Kane began his residency at the University of California at San Francisco Medical Center in 1959, he got a phone call. His father, Paul—a retired Army general who had survived combat in both World Wars, never smoked, and had no apparent health risks—had just died of a heart attack at 66. The news propelled Kane into the field of cardiology. Nearly a half-century later, his discoveries may alter the treatment of the No. 1 killer in the industrialized world: heart disease.

Kane spent much of his first two decades as a doctor doing research that helped link high cholesterol to heart attacks. In 1985, he began collecting samples of DNA, believing that genes must play a role as well. Now 72 and still logging 11-hour days, seven days a week, Kane has scrutinized 10,000 genes, nearly half the human genome. So far he has



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RICHARD MORGENSTEIN

identified 20 variations that seem to mark the people who carry them for heart attacks.

Working with his longtime lab partner and wife, Dr. Mary J. Malloy, at the UCSF Cardiovascular Research Institute, Kane has reached some surprising conclusions: At least half of the genetic variations linked to heart attacks bear no obvious relation to cholesterol levels, blood pressure, or any of the other usual suspects in heart disease. Instead, they strongly suggest mechanisms such as inflammation, which can be caused by an infection or by a haywire immune system. That implies that there may be several forms of heart disease, just as there are multiple forms of breast and lung cancers.

If Kane is right, doctors might be able to screen patients' DNA and predict not only whether they are likely to have a heart attack but which type of heart disease to expect and which drug or procedure might work. Instead of prescribing a cholesterol-lowering pill such as Lipitor reflexively, they might choose an anti-inflammatory, for example. Other experts share Kane's conviction, including executives at Celera Diagnostics, an Alameda (Calif.) outfit co-founded by genomics pioneer J. Craig Venter. Celera hopes to have a genetic test for heart disease on the market in a few years, based largely on Kane's research. "We're embarking onto the open sea," says Kane, "and we're discovering things that nobody knew about."

Historians have called the late 19th century "the great flowering" of medicine. Thanks to advances in microscopy and a deeper understanding of germs and human physiology, scientists were able to identify the cause of one infectious disease after another. Today, despite headline-grabbing fiascos like Vioxx, medicine is on the verge of a second flowering. This time the findings may improve the treatment of everything from heart disease to cancer, depression, Alzheimer's, and autoimmune disorders. Doctors are calling it the age of "personalized medicine" as they close in on genetic variations that hint at why one person responds to a drug and another doesn't, why some people are prone to strokes or heart disease, why one person's cancer is more aggressive than another's.

The shift to drugs tailored to a specific genetic profile will bring massive changes to a pharmaceutical industry long wedded to treatments that can be taken by millions upon millions. Most prescription medicines are now effective for fewer than half of the people who take them—and the side effects can be worse than the illnesses. "From a strategic standpoint, of meeting the needs of our customers, the current blockbuster model doesn't work," concedes Sidney Taurel, chairman and CEO of Eli Lilly & Co.

Drugmakers suffer mightily when a blockbuster fails—as demonstrated by Merck & Co. On Aug. 19 a Texas jury returned a \$253 million verdict against Merck for the 2001 death of a patient who had been taking the painkiller Vioxx. And that's only the first of thousands of Vioxx lawsuits, which could leave the company reeling.

Merck pulled Vioxx from the market last fall after it was linked to heart attacks and strokes. Although scientists suspect that Vioxx is safe for the vast majority of patients, the drug can dramatically increase the risk of blood clots for a few. But there is no test to reveal who can take the pill safely and who can't.

Well before the Vioxx troubles, Big Pharma and biotech were beginning to explore personalized medicines. Those efforts should pick up momentum, says Robert Goldberg, director of the Center for Medical Progress, a public-policy think tank. "If drug companies do not go the route of understanding and responding to the tremendous genetic variations in how we react



THE AMPLICHIP FROM ROCHE GAUGES THE GENETIC RESPONSES TO MEDICATIONS

to medicine," he says, "you'll see more litigation, not less."

Getting to that understanding is still a challenge because illness is never a simple phenomenon. Researchers have shown that there are many varieties of breast cancer and leukemia, and the same is surely true of other cancers, coronary disease, and neurodegenerative ailments—with each variety afflicting different subsets of people based on genetic vulnerability. Doctors are seeking to identify differences among groups through DNA tests, hoping that treatments can be tailored as well. Ultimately, each of us should receive the drugs that work best, based on the subset dictated by our genes.

Personalized medicine is set for a natural progression. First, genetic screening will yield more accurate diagnoses. Next, doctors will prescribe medications that will help, not harm. Finally, there will be an explosion of treatments for specific populations. That doesn't mean doctors will handcraft pills for each patient, but there will be more effective treatments, less waste—and much less Vioxx-style collateral damage.

A milestone was the completion in 2003 of the mapping of the entire human genome—the 25,000 genes coiled in the chromosomes of every cell. Since then, databases of DNA have been assembled with samples from tens of thousands of people. By comparing genes, researchers can link variations and mutations to all sorts of illnesses. Kane, for instance, has a database of specimens from 20,000 people. He starts with samples from people who have had heart attacks or shown signs of heart disease at early ages. He then compares their genes with those of exceptionally healthy people, such as 935 elderly athletes at last year's Huntsman Senior Games in Utah.

Certain farsighted drugmakers have also mounted deep-pocketed efforts to develop tailored medicine. Abbott Laboratories, Johnson & Johnson, and Switzerland's Roche Holding are learning how to examine tissue samples or blood from a patient and spot relevant genetic and biochemical variations, of-





ROCHE'S VON PRONDZYNSKI PLANS AN ARRAY OF DNA TESTS IN THE NEXT FEW YEARS

DNA, RNA, proteins, and chemical signals among cells all play a role in diseases, as do higher-level structures such as the human immune system. And most of these complex interactions are still only dimly understood. Kane predicts that by the time he has reviewed the entire genome, he'll have fingered 40 to 100 different biomarkers in heart disease alone. Says Roche CEO Franz B. Humer: "In 20 years' time, when people look back, they will consider us now as if we were in the Dark Ages."

Not only is the field still immature but it is also beset with concerns about public policy and privacy. Experts fear individuals may be denied life insurance, health insurance, or even a job if they're known to harbor genes for a debilitating illness. Also, there is a debate about whether personalized medicine will reduce or increase health-care spending. Better diagnostics would let doctors intervene more quickly, avoiding some costly procedures. But hospitals may also order more and more tests indiscriminately to cover themselves against possible lawsuits for not detecting diseases before it's too late. And those tests can be expensive: A test for abnormalities on the BRCA1/2 genes implicated in certain breast and ovarian cancers costs \$3,000 apiece.

Advocates counter that if the money saves lives, it will be well spent. But the point is far from resolved—and it's just one of many debates about costs, benefits, and timetables. Amid all the contention, doctors, drug-company execs, and patients continue to march forward, drawing on the resources of the world's top academic institutions, hospitals, and government agencies.

While cancer treatments are in the vanguard, heart disease looks as if it might be next. Scientific progress in this area may not help Kane solve the mystery of his own father's unexpected death. But Kane and Malloy have three grown children. If there are markers lurking in their DNA, his work could suggest new courses of action. It also could help millions of others at risk of dying before their time. In this fashion, one research effort at a time, the revolution in personalized medicine is moving forward. Here are some dispatches from the front lines:

The Chief Executive

A TRAINED MATHEMATICIAN, Heino von Prondzynski, the 55-year-old CEO of Roche's diagnostics unit, seems more like a schoolmaster than a crusader. But get him going on the power of diagnostics to transform medicine, and the usually taciturn German exudes an almost missionary zeal. Taking a small silicon chip from his breast pocket, von Prondzynski

ten referred to as biomarkers. Pfizer Inc. and Bristol-Myers Squibb Co., among others, are using these tools to fashion pharmaceuticals for targeted groups.

There have been a few early triumphs. One of Genentech Inc.'s most lucrative drugs is Herceptin, which has been used to treat 175,000 metastatic breast cancer patients who share a particular genetic variation. Doctors have also grasped how genes regulate liver enzymes that break down drugs, thus helping to avoid adverse side effects in some patients.

Such success stories are still rare. Personalized medicine resembles a weather forecast, based on probabilities and interpretations of data. The presence of a single gene or combination of genes makes it likely that a person will develop or avoid a particular disease—but the outcome is almost never certain.

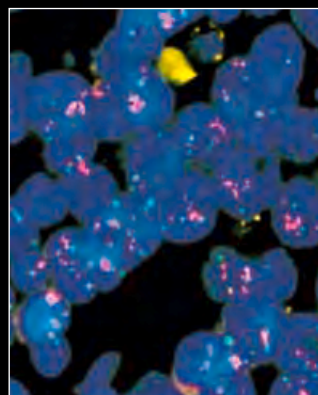
Mining DNA for Biomarkers

Inside the nucleus of each human cell are 23 pairs of chromosomes—long, entwined strands of DNA containing some 25,000 genes that carry the code for everything from the color of your eyes to your predisposition to certain illnesses. These genes contain precious diagnostic clues, which doctors can exploit to personalize medical care:

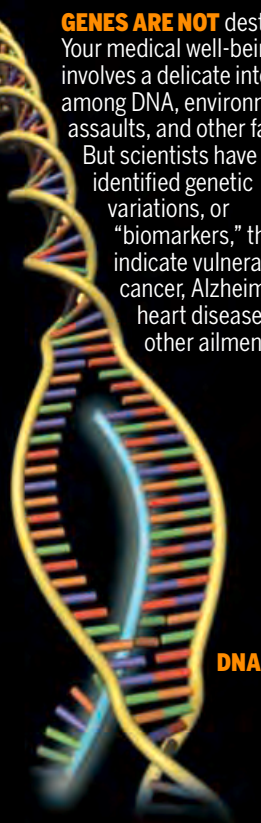
GENES ARE NOT destiny. Your medical well-being involves a delicate interplay among DNA, environmental assaults, and other factors. But scientists have identified genetic variations, or “biomarkers,” that indicate vulnerability to cancer, Alzheimer’s, heart disease, or other ailments.

CELL NUCLEUS

ONE OF THE FIRST and most useful biomarkers found is the HER2 gene. When there are too many copies of this gene in breast cancer cells, tumors grow at a deadly pace. This abnormality is thus a marker for malignancy—and also an indicator that the patient might be helped by Genentech’s cancer drug Herceptin.



TO SEE IF a woman carries the abnormality, doctors take a biopsy and study the cells using a technique called fluorescence in situ hybridization (FISH), made by Abbott Laboratories. In the test, the DNA is painted with fluorescent molecules, which attach to copies of the HER2 genes and light up (left). A computerized scanner then determines if the count is abnormally high.



DNA

claims the device—no bigger than a postage stamp—and others like it will lay the foundation for a new era of health treatment, enabling earlier and more accurate diagnosis and more customized care.

Launched in the U.S. in January, Roche’s device—called the AmpliChip—is the first genetic test approved by the Food & Drug Administration to identify responses to a wide array of medications. It does this by detecting genetic variations that control two liver enzymes responsible for how patients metabolize up to 25% of prescription drugs. For some people, known as ultra-rapid metabolizers, there are too many such enzymes in the bloodstream. That causes the body to clear the drugs out of the system so fast they get no benefit. About 3% to 10% of people lack the enzymes altogether and cannot break down medication, so the drugs build up too quickly in the bloodstream, making even a standard dose toxic. Devices like the AmpliChip, says von Prondzynski, “will address the two biggest challenges facing the health-care system today: cost and safety.”

That could save society enormous sums. Each year 2.2 million Americans suffer adverse reactions to prescription drugs. Of them, more than 100,000 die, making side effects a leading cause of death. Often blockbusters like Vioxx are found to be the culprits. The cost of treating adverse drug reactions in the U.S. alone totals \$4 billion annually, according to a *Journal of the American Medical Association* study. All told, Roche estimates that the U.S. could shave \$21 billion from its health-care bill by 2020 if doctors used tests such as AmpliChip to select the right medicine at the right dose, based on a patient’s genetic makeup.

The payoff for Roche could be huge. Swiss consultancy Jain PharmaBiotech estimates that Roche’s sales of molecular diagnostic kits and devices could grow from \$6.5 billion a year now to \$12 billion by 2010. Today such gene-based tests are a small part of Roche’s diagnostics sales, which made up more than 25% of the company’s \$23 billion sales for 2004. But gene tests are growing the fastest by far.

Roche got a head start in molecular diagnostics. Against the advice of its own scientific advisers, the company laid out \$300 million in 1991 for the rights to a tool called polymerase chain reaction from Cetus Corp. in Emeryville, Calif. Invented in the early 1980s by Cetus scientist Kary B. Mullis, PCR was then a largely untested technology that allowed traces of genetic material to be amplified for analysis. Few at the time thought it had much commercial potential. But the doubters were wrong. In 1993, Mullis was awarded the Nobel Prize in chemistry, and Roche has gone on to use PCR as the foundation of cutting-edge diagnostic tests to detect everything from hepatitis and HIV to cancer.

Von Prondzynski believes a series of new cancer diagnostics will further improve treatments. In 2006 the company plans to launch a DNA chip to pick up the p53 gene. In healthy people, p53 plays a role in suppressing tumors, and many people who harbor variations of it wind up with cancer. Roche’s chip not only catches the variations but also is designed to show how fast or slowly a tumor is likely to grow, enabling doctors to decide how aggressively the cancer needs to be treated. By 2008, Roche hopes to have a test available to predict the likelihood of relapse in patients with colorectal cancer. The following year it plans to field screening tests for early signs of breast, prostate, and colorectal cancers. “In 10 years’ time,” says von Prondzynski, “I could envision having three DNA chips for breast cancer alone: One for early detection, one for drug selection, and another for therapy monitoring.”

**"I LOST 10
YEARS OF MY
LIFE" FROM
UNSUITABLE
MEDICATIONS,
SAYS WESTRA**



The Patient

ANNEKE WESTRA HAS EXPERIENCED the power of Roche's diagnostic technology. Eleven years ago, at 30, she was a promising scientist with a PhD in biotechnology who already had a patent to her name. Despite a lifelong struggle with depression, she became an expert in biosensors, traveling the world to present scientific papers. That changed in September, 1994, when the Londoner was diagnosed with bipolar disorder.

It was the start of a decade-long debacle. Westra's treatment involved a dozen psychiatrists and 18 pharmaceuticals—each drug, it seemed, with worse side effects than the one before. Her mental and physical health deteriorated. Frequently hospitalized and unable to work, she eventually tried to kill herself. "I lost 10 years of my life from the drugs I was given," she says.

Westra's case is extreme but not unique, and it explains why doctors and patients both are eager for personalized medicine. One in five people at some point suffer depression severe enough for medication. Many spend months trying a variety of drugs, at different dosages, before hitting on a prescription that works—if they're lucky. For 25% of patients, the most common antidepressants—selective serotonin reuptake inhibitors such as Prozac—are ineffective. Millions more are wracked by side effects. Until Roche launched its AmpliChip,



**MORE THAN
100,000
PEOPLE DIE
FROM DRUG
SIDE EFFECTS
EACH YEAR**

there was no reliable means of monitoring the family of enzymes found mainly in the liver, known as CYP450, that dictate how our bodies break down medication. That left trial and error—and a trail of tears.

After her diagnosis, Westra spent the next few years in and out of the hospital, but no matter what drugs doctors prescribed, terrible side effects set in almost immediately. Promazine knocked her unconscious for five days, while within four days of taking Eli Lilly's Zyprexa she was hearing voices in a drug-induced state of psychosis. "No one believed

THE FDA'S
WOODCOCK IS
PASSIONATE
ABOUT
PERSONALIZED
MEDICINE



me when I told them I was being poisoned by the drugs,” she says.

Finally she found a psychiatrist who prescribed a mild tranquilizer, and she improved. Rested and thinking clearly for the first time in years, Westra deduced that her troubles had something to do with the way her body metabolized medication. In just three hours of exploring medical Web sites, “I worked out what it might be,” she recalls. “I was crying with relief.”

Her research led her to Dr. Katherine J. Aitchison at the Institute of Psychiatry at King’s College London, who confirmed Westra’s suspicions. Using the AmpliChip test, Aitchison found Westra had too little of two drug-metabolizing enzymes in her liver, making her acutely sensitive to numerous medications.

Millions of people may be like Westra, according to Dr. José de León, an associate professor of psychiatry at the University of Kentucky and medical director of the mental health research center at Eastern State Hospital in Lexington. In a study published in the January issue of *The Journal of Clinical Psychiatry*, de León found that patients without the CYP2D6 enzyme—one that Westra had too little of—were three to six times more likely to experience severe side effects when placed on the antipsychotic risperidone. Now he’s conducting a study on 4,000 psychiatric patients at three state hospitals in Kentucky to determine if testing patients for these genetic variations before prescribing is cost-effective.

Westra, 41, finally has her life back. She takes minuscule amounts of three psychiatric drugs, and uses homeopathic remedies. “I used to fall into a suicidal depression that would last nine months. Now the depression lifts in two weeks. That never happened before.” In addition to advising mental health practitioners, she’s the co-founder of Britain’s No Force Campaign, which lobbies against forced medication of the mentally ill. And while she has testified calmly before Parliament on the topic, she’s still angry at the health-care

system that let her down. “I have been through a nightmare, only to discover it never should have happened,” she says. “The information was out there.”

The Regulator

FOUR YEARS AGO top FDA official Dr. Janet Woodcock met with drug industry representatives to discuss the promise of personalized medicine. “It was a ‘call to light’ kind of meeting,” recalls Woodcock, now deputy commissioner. But the pharmaceutical folks weren’t ready to sign on. “People stood up and said: ‘We are terrified.’”

Their reaction wasn’t surprising. Using drugs in targeted ways raises scientific, financial, and regulatory issues. For companies, it can mean smaller markets for drugs and the risk that they will not win FDA approvals unless they can

KATHERINE LAMBERT



**YOUR ENZYME
PROFILE MAY
ONE DAY
BE CHECKED
INSTEAD
OF YOUR
CHOLESTEROL**

prove that the target is proper, as well as the drug.

Faced with such concerns, Woodcock is a passionate advocate: She has a vision of the FDA working with scientists and companies to bring better drugs to market faster, and to use existing drugs only for those patients who will benefit from them. The vision is fueled by fresh evidence that patients' varying response to drugs are hardwired in their DNA. Recently, researchers have found variations in two genes that predict how much blood thinning will occur with a given dose of warfarin. Testing for those variations, then adjusting the starting dose accordingly, could be a huge medical advance—preventing cases of bleeding from too much of the drug or clots from too little. "It isn't that there are bad drugs and good drugs," she says. "It's that some drugs run into bad problems with a small subset of people."

In addition, the medical community is becoming accustomed to the idea of pairing diagnostics and drugs, especially when introducing new treatments. For a cancer drug that has only a 10% response rate in the general population, "we can make it a 100% response if we can figure out who actually benefits," says Woodcock. "Then the other 90% don't have to be exposed to the drug, and everyone is happy." That should also mean fewer Vioxx-like debacles, and fewer crippling liability payouts.

There's also the hope that developing drugs and diagnostics together will simplify FDA approval. By focusing clinical trials more tightly on people who are likely to benefit, the trials could be smaller, they would take less time, and so would the approval process. And by weeding out potential victims of side effects at the trial stage, companies would stand a better chance of getting their products greenlighted.

More You Should Know about Medical Breakthroughs

Life or Death: Cutting-edge diagnostics will help make that difference for patients, says leukemia pioneer Dr. Torsten Haferlach

Is Genetic Testing Cost-Effective? One researcher sets out to prove the benefits for patients and health-care systems

Beating Breast Cancer: Herceptin—the first drug approved for a specific population—is helping women survive a virulent form of the disease

Advice from the FDA: Deputy Commissioner Dr. Janet Woodcock goes into more detail about how to avoid Vioxx-like problems

BusinessWeek online

www.businessweek.com/extras

That's the rosy scenario, anyway. The darker view is that companies will discover that it's expensive—and scientifically challenging—to identify biomarkers that predict a patient's response and then to develop the necessary diagnostic tests. Once the tests are available, skeptics contend, doctors still may not use them before prescribing. And because the FDA has no authority over the practice of medicine, it can't insist.

The agency can issue stern warnings, but experience is not reassuring. When the diabetes drug Rezulin started causing liver failure in some patients, the FDA ordered doctors to monitor patients' liver enzymes to spot early warning signs. Yet few did. Patients continued to die, and the agency had to withdraw the drug from the market.

What's more, as companies probe the genetic impact of powerful new drugs, they may be in for unpleasant surprises. What if, for instance, a drug that seems to cause no side effects happens to turn on a gene linked to cancer or to liver repair? Would the FDA then demand years of testing to show that the drug doesn't cause cancer or harm the liver?

Since her meeting with pharmaceutical executives four years ago, Woodcock and her team at the FDA have worked hard to assure drugmakers that they won't be penalized for doing these so-called pharmacogenetic studies. The agency has ruled that disclosing genetic data is voluntary, not mandatory. And it has created a "safe harbor" for companies to discuss findings with FDA experts without triggering regulatory issues or delays.

"I give Janet a lot of credit for continuing to pound on this," says Mikhail L. Gishizky, chief scientific officer at drug researcher Entelos Inc. in Foster City, Calif. And her efforts are slowly having an impact. "We are seeing companies moving this technology into the clinic in the next year or so," says Woodcock. So tomorrow's drugs should come with a far better understanding of how they should be used and in which groups of people. "It is a big scientific endeavor," she says. "But the payoff is so tremendous that it must be accomplished."

When doctors, drugmakers, patients, and regulators all push in the same direction, few barriers are likely to stand in the way. ■

HOMING IN on Cancer

Most blockbuster drugs are prescribed too broadly, failing to help some patients and harming others. But in oncology, doctors now pair diagnostics with drugs to find the patients most likely to benefit. Such personalized pharmaceuticals include:

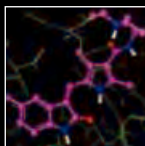


HERCEPTIN (Genentech): Aimed at women with late-stage breast cancer whose genes carry the HER2 biomarker. On the

market since 1998

GLEEVEC (Novartis): Targets a cancer-related protein called BCR-ABL in patients with chronic myelogenous leukemia. On the market since 2003

SUTENT (Pfizer): For people with Gleevec-resistant gastrointestinal tumors bearing special cell markers. Late-stage human trials were completed in May.



ENZASTAURIN (Eli Lilly): Aimed at patients with aggressive brain tumors that

bear particular markers. Late-stage human trials will begin in early 2006

DASATINIB (Bristol-Myers Squibb): Could benefit leukemia patients with the "Philadelphia chromosome," which makes them resistant to Gleevec. In mid-stage human trials

CP-751,871 (Pfizer): Aimed at patients suffering from bone-marrow cancer whose genes carry a biomarker for an insulin-like growth factor. Now in early clinical trials.

ABT-737 (Abbott Labs): This drug targets a certain strain of lung cancer and lymphoma cells, reactivating a switch that allows these cells to die. In animal experiments.



EDITED BY
ARLENE WEINTRAUB

INNOVATIONS

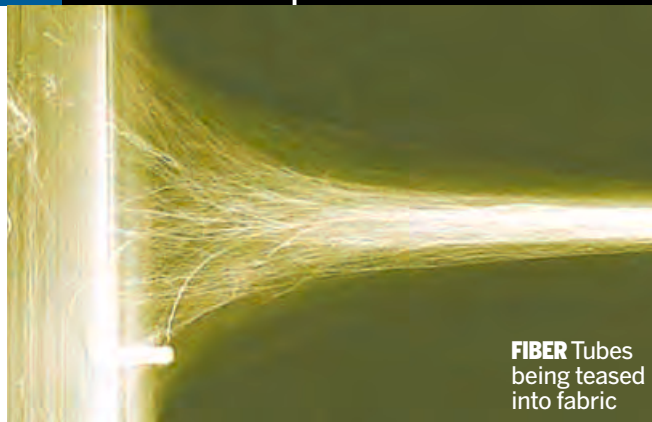
Tropical warming and harmful gases

» Environmentalists have long believed the most serious effects of global warming would be felt at high latitudes, where melting ice caps have already set off alarms. But now, University of Washington scientists believe the tropics may be in even more peril. In a study presented on Aug. 19, the researchers found that organisms in the steamy tropics have little tolerance for even tiny temperature shifts. That's because they haven't experienced normal seasonal swings allowing creatures in places such as Alaska to adapt to



temperature changes. The research could shed light on which organisms are in danger of extinction.

» A study released on Aug. 9 shows that some ecosystems cannot absorb as much carbon as scientists once believed they could. Jeffrey Dukes, a biologist at the University of Massachusetts, led a study exposing grasslands in California to excess CO₂ and other global-warming conditions. The grasslands did not store much of the excess. Dukes hopes to study other ecosystems to better understand why some don't act as a buffer against global warming.



FIBER Tubes being teased into fabric

NANOTECHNOLOGY

SPINNING AND WEAVING NEW USES FOR NANOTUBES

CARBON NANOTUBES (CNTs) have long held great promise as building blocks for next-generation materials and electronic devices. Lighter and stronger than steel, CNTs can also conduct electricity well. But efforts to combine them into usable structures haven't yielded much success to date. In the Aug. 19 issue of *Science*, however, scientists in Texas and Australia outline a new method to spin CNTs into thin sheets.

To make the sheets, trillions of individual CNTs—chemically grown in forest-like

clumps—are teased together to create larger ropes, which in turn are merged into fabric strips. The resulting ultralight material—an acre's worth would weigh as little as 4 oz.—has potential uses in everything from space sails to light-emitting displays, and artificial muscles to transparent radio antennas, says Ray H. Baughman, the University of Texas at Dallas nanotechnologist who led the project. Prototype products using the fabric, he adds, could be available in 2006. —Rod Kurtz

DIAGNOSTICS

A DIFFERENT KIND OF WET CELL

HUMANS HAVE been exploiting the power of urine for centuries. The Romans brushed their teeth with it. Other cultures, such as the ancient Chinese, drank it to purify the body of all manner of ills. Now scientists in Singapore have devised a pee-powered battery to run tiny, portable test-kits for diseases such as diabetes.

The kits work thanks to a tiny chip made of copper, magnesium, and paper laced with copper chloride. A drop

of urine on the credit-card-sized device starts a chemical reaction that causes a tiny electrical current—enough to test the sample for diseases.

Dr. Ki Bang Lee, who led the research at Singapore's Institute of Bioengineering & Nanotechnology, is now working on chips powered by other bodily fluids. Lee figures cheap, disposable tests could help patients in underdeveloped countries to monitor their own minor health conditions. He also believes his invention could run a range of gizmos, including a saliva-powered emergency cell-phone. One lick may provide enough juice to make that vital call.

—Constance Faivre d'Arcier

HEART DISEASE HOW IT CAN MAKE YOU DEPRESSED

PEOPLE WITH heart failure often suffer from the blues. Now scientists may have proof that it's not just the energy-sapping symptoms of their disease that makes heart patients feel down. On Aug. 19 researchers at the University of California at Los Angeles published a study linking heart disease to a form of brain damage that can cause depression.

MRI scans taken of patients with heart failure revealed tissue loss in the part of the brain that regulates the autonomic nervous system. That's the same region of the brain that exhibits changes in patients suffering from depression. The researchers, who published their findings in the *Journal of Cardiac Failure*, believe the brain damage also impedes blood-pressure regulation, making it uncomfortable for heart patients to exercise—a key part of their recovery.

The findings may inspire drugmakers to search for heart-disease remedies able to cross the blood-brain barrier and prevent tissue injury. "Neuroprotection is the magic key," says Ronald M. Harper, professor of neurobiology at UCLA.



FEELING BLUE

Chuck Prince's Citi Planning

The CEO has a strategy for the financial giant. Those who don't like it can quit

AFTER THREE YEARS OF grappling with angry regulators, sagging morale, stumbling financial results, and a stock stuck in neutral, Citigroup chief executive Charles O. Prince is ready to roll. He's revving up the world's largest financial company with a new growth plan.

The recent spate of high-level departures is a sign of the changing times. Prince is populating the bank's upper echelons with what he calls the "next generation of leaders," people ready to implement his vision for Citi. Now out of the long shadow cast by his predecessor, Sanford I. Weill, Prince is clearly moving away from a strategy that relied heavily on huge acquisitions for growth.

In an interview with *BusinessWeek*, Prince says he has renounced big deals until at least the end of next year or early 2007—a full year after the Federal Reserve's ban on Citi making any major acquisitions was expected to end. "I think that people have concerns that we are going to be forced to do a big deal and have all kinds of acquisition risk," he says. "If we can go as little as five or six quarters consecutively without headline issues, with good solid organic growth without having to do a big complicated deal,

[then] we will see an important change in the sentiment about the stock." Citi shares are down 10.6% so far this year.

Prince's new growth strategy has four prongs: Invest heavily in the consumer businesses, capitalize on fast-growing international markets, build up the corporate investment bank, and restore Citi's battered reputation. "Everything we do should fit under one of those headings," he said.

The key to making Prince's plan work is restructuring consumer banking, Citi's most valuable real estate. Last year, it generated \$47 billion in revenues and \$12 billion in earnings, or about 55% of the bank's profits and more than either Wal-Mart Inc. or Microsoft. Yet its credit cards are losing market share, and consumer finance is lagging behind peers. Citi has about a third as many branches as Bank of America Corp., which is running a much smoother retail business.

As Prince sees it, Citi needs to reorganize the company from selling just products, and focus more on service, as do BofA and fast-growing upstarts such as Commerce Bancorp Inc. of Cherry Hill, N.J. He says he'll spend big to develop Citi's brands by upping advertising budgets and by launching a richer rewards program so that the more Citi products customers use, the greater discounts or perks they get. And he'll



MARJORIE MAGNER

Citi's head of consumer banking left when Prince opted to split her fiefdom

also build branches from scratch, though acquisitions of small banks are also likely. Citi has only a 3.6% share of U.S. deposits, while BofA's 10% is at a Fed-imposed ceiling.

FOREIGN APPROACH

HIS PLAN TO overhaul consumer banking put Prince on a collision course with Marjorie Magner, a 20-year vet of the bank, who announced on Aug. 23 that she would resign as head of the global consumer group and leave. Prince is splitting her bailiwick in two. He promoted longtimers Ajay Banga, 45, and Steven Freiberg, 48, as co-heads of the consumer group. Banga, president of retail banking, will oversee North America. Freiberg, CEO of Citi Cards, will run the group's international operations. Magner didn't respond to several requests for comment.

In Prince's view, foreign markets with plenty of growth potential need a different approach than mature U.S. and Canada markets. His top priorities are to invest more in retail banking in emerging markets like Poland, Turkey, and India, at least double Citi's credit-card volume worldwide, mostly in Southeast Asia and



(L TO R) ANTHONY G. MOORE/SIPA PRESS YOSHIKO; KUSANO/KEystone/AP/WIDE WORLD



MAKING HIS MARK
Prince has—for now—forsaken Weill's policy of growth-by-merger

Latin America, and sell more investment products in Europe.

Prince is also busy streamlining the sprawling Citi empire. In recent months he has cut six operating units to four and sold off Citi's asset management and Travelers insurance units. To expedite strategic decisions he has created a 30-person operating committee, half the size of the management committee he inherited from Weill. And he's overhauling Citi's investment bank. Prince has made three acquisitions for undisclosed sums to beef up electronic trading for institutional clients, built a new distressed-debt group, and given equity and derivatives trading new technology and manpower.

Meantime, the clean-up of Citi's past transgressions continues. In June, the bank agreed to pay a total of more than \$2.2 billion to settle alle-

gations that it had overcharged mutual fund investors discounted fees, as well as a class action over its lending to Enron. Prince's campaign to improve the bank's "values, priorities, and internal controls" in order to wipe out any holdover rogue instincts from the old Citi culture is in full swing.

Prince's Plan

Slow growth in Citigroup's U.S. consumer business as well as regulatory and other problems have hurt earnings and the stock price. Here's how CEO Chuck Prince aims to fix them:

FORGO big mergers for at least 18 months to gain the market's trust.

EXPAND credit cards and retail banking in high-potential emerging markets such as Poland, Taiwan, Indonesia, and Russia.

GIVE U.S. customers incentives to use more bank products by offering rewards and discounts. Open more branches.

SPLIT global consumer banking in two to separate mature domestic markets from fast-growing foreign ones.

BUILD UP the investment bank by adding electronic and derivatives trading and adding a distressed-debt team. Beef up staff in Europe and Asia to cater to hedge funds.

PUSH a five-point ethics plan, introduced in March, to clean up Citi's culture.

Some like what they see so far. "[Prince] is not making foolish acquisitions, and he seems to be very genuine about meeting the commitments he has to the Street," says James K. Schmidt, co-manager of the \$2.3 billion John Hancock Regional Bank Fund, which owns 1.3 million Citi shares.

Still, the recent hemorrhaging of top executives has made some on Wall Street nervous. In mid-July, Citi's No. 2, Robert Willumstad, resigned after 20 years at the bank. Even Weill got into an embarrassing imbroglio with Citi's board over an apparent effort to quit as chairman before next April's annual meeting as planned. He was mulling leaving earlier to launch a \$5 billion private-equity fund. "Many of the original visionaries of Citi as we know it today are leaving," says research analyst David Hendler of CreditSights. "There was never any indication that these people were unhappy."

ONE-STOP SHOPPING

Prince insists that the management changes are not part of an orchestrated plot to oust the Weill regime. "There is kind of a natural evolutionary process where at some point if people have been here a long time, they go off and do something else," he says. "That's healthy for an organization."

Despite Prince's ambitious plans for the bank, he still believes in the concept of a one-stop-shopping bank that Weill pioneered. While the debate over the viability of that model rages on, Eugene Ludwig, a former comptroller of the currency, says there's more of a case for it than against. "It's hard to argue with the power

and diversity of the Citi or JPMorgan Chase or BofA balance sheet," he says. "You can make a lot of mistakes when you have that kind of powerful capital base behind you."

Since he became CEO, Prince has had Citi's huge clout at his disposal. But he has been too preoccupied with crisis management to use it. As those problems begin to ebb, the market is eager to see how well he can deploy Citi's power now that he's his own man. ■

—By Mara Der Hov-
anesian in New York



What's Dogging Dell's Stock

Worries over growth are holding down its shares while those of rival HP take off

FEW INVESTORS WOULD dispute the notion that Dell Inc. is one of the great companies in tech. The world's largest computer maker's earnings jumped more than 25% last year, outpacing a nearly 19% rise in sales. It has a clear playbook to push into higher-margin products and new geographic markets. So why are Dell shares down 16% since the end of last year, while those of rival Hewlett-Packard Co. have soared more than 27%?

HP is simply beating Dell hands down in managing Wall Street's expectations. HP was long one of tech's most mediocre performers—famous for big earnings disappointments and unfulfilled ambitions. But the stock lost its “Carly discount” after the divisive Carleton S. Fiorina was shown the door in April, and the new chief executive, Mark Hurd, began doing the right things. He has attacked bloated costs and brought in new management blood. Analysts expect the no-nonsense Hurd, known for underpromising and overdelivering on results, to boost already-rising earnings through nuts-and-

bolts operating improvements such as more disciplined pricing. Says Merrill Lynch & Co. analyst Richard Farmer, “We think Wall Street is still underestimating HP's earnings power.”

By contrast, Dell is becoming a victim of its own success. On Aug. 11 the company announced a second-quarter sales increase of 14.7%, far outpacing HP's 10% rise. The Round Rock (Tex.)-based Dell said it cut prices too much and didn't sell as much as it hoped to the federal government. Trouble is, the sales number was below its own earlier forecast of a 16% to 18% increase. Worse yet, Dell also ratcheted down its revenue projections for the current quarter ending in October. Dell's stock immediately tanked 7.4%. Some analysts are questioning whether Dell stock still deserves its longstanding premium rating. On Aug. 12, high-profile Goldman Sachs

SHIPPING OUT
Dell says it cut prices too deeply

& Co. analyst Laura Conigliaro downgraded Dell to “market perform” from “outperform” because of the

lower estimate for future sales growth.

Until this year, Dell gave specific guidance for sales and earnings. But in the first quarter, the company began giving a range instead. Dell spokesman Jess Blackburn explains that as the company gets bigger and more global, “being able to predict a precise outcome for a quarter does become more challenging.” Some investors aren't happy with the change, especially when Dell misses the target range. “Management has been leading investors in somewhat of a whipsaw,” says Tony Ursillo, an analyst at mutual fund group Loomis, Sayles & Co., which owns about 2.8 million Dell shares. “Had Dell come out at the beginning of the year and said it would achieve a 15% growth rate, the stock wouldn't have been so volatile.”

NEW PRODUCTS

ASIDE FROM the problem of Dell missing its own expectations, analysts figure the company's revenue growth is unlikely to get back to the 17% to 18% pace it was posting a year ago. That's because about 79% of Dell's \$49 billion in sales last year came from desktops and notebook computers, both categories in which prices are falling. While analysts generally applaud Dell's expansion into higher-margin products such as music players and flat-screen TVs, “its entry into consumer electronics is seen as evidence that the core businesses are

maturing and that it doesn't deserve a premium stock value,” says Richard Chu, analyst at SG Cowen & Co.

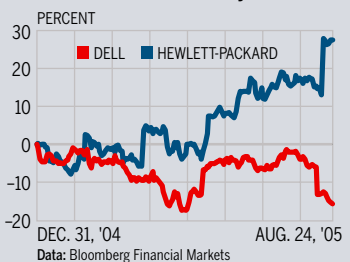
That leaves Dell investors still scratching their heads, wondering whether there's another revenue shortfall in the cards. Chu says Dell's troubles this year “create questions not about whether this is a bad team, but whether a

good team is missing because the game is getting tougher.” If that's happening, investors may just have to lower their expectations about Dell's earnings—and its stock. ■

—By Louise Lee with Peter Burrows in San Mateo, Calif.

LEFT IN THE DUST

Dell's stock price has trailed far behind HP's this year



Slow to Reveal The Deals

Many brokers don't say much about payments they get to push certain mutual funds. **BY ANNE TERGESEN**

YOU MIGHT HAVE THOUGHT the mutual-fund scandals put an end to pay-to-play arrangements. But the practice of fund companies paying extra to give brokerage firms an incentive to push their funds or hand them coveted spots on “preferred lists” remains firmly entrenched. Brokerages like these arrangements, which bring in an estimated \$2 billion in annual revenue on top of regular commissions, according to Boston consulting firm Financial Research Corp. Fund com-

panies depend on them to gain an edge in a universe of more than 6,400 offerings.

Now, many from both sides are finally starting to say more about these “revenue sharing” deals. But the Securities & Exchange Commission’s disclosure rules are minimal—the only time a brokerage firm must tell you it received revenue sharing from a fund sponsor is when you purchase shares, although a proposed rule could make them stricter. So for now, there’s wide variation in how much detail the firms give out, and no two firms do it the same way. This makes it more difficult for investors to track down the information than to find, say, the sales charges and management fees that are laid out in uniform tables in the fund prospectus.

Since fund companies pay for preferred positions out of their own pockets, why should you care? Because you want to be sure that the fund you’re buying is the best fund for you, not because it’s the best one for the broker to sell.

Revenue-sharing arrangements vary from broker to broker. Though firms often receive higher payments from some fund groups than from others, they rarely say who pays the most. One exception is Smith Barney, which on its Web site, smithbarney.com, ranks the fund families from those that paid it the most in 2004 (Smith Barney and Franklin Templeton) to the least (Legg Mason and Nations).

At the other extreme are firms whose disclosure is bare-bones. A.G. Edwards ac-

knowledges in a statement prepared for *BusinessWeek* that it receives payments from “some—not all—of the mutual-fund companies.” But it does not disclose them, it says, because “these agreements have not influenced the fund recommendations we make.” Indeed, as long as a fund’s prospectus reveals that the fund’s sponsor pays revenue sharing—and gives some indication of the amount—a brokerage firm can substitute that prospectus for its own disclosure, says Douglas Scheidt, chief counsel for the SEC’s Investment Management Division.

CHECK THE WEB

THE PROSPECTUS and the more detailed statement of additional information (SAI)—available upon request and at many fund company Web sites—don’t usually say how much goes to specific brokerage firms. The Jan. 29 SAI for Fidelity Advisor Equity Growth Fund only says that Fidelity Investments anticipates paying “hundreds” of firms amounts that depend, in part, on whether the fund was placed “on a preferred or recommended fund list.”

So where can you find out if your brokerage firm gets paid extra by selling you a particular fund? Besides asking your broker, look to the firm’s Web site. If you



ALEX NABAUM

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99 Diving into Watsu massage

100 The skinny on new motor scooters

102 Plus: Ansel Adams, urban wineries



type “revenue sharing” in the search box at UBS Financial Services’ site, ubs.com, you’ll get to a page that lists 21 fund companies in the firm’s “Tier 1” group. Together these accounted for “approximately 80%” of UBS’s 2004 and first-quarter 2005 mutual-fund sales. (The 21 fund families are a fraction of the approximately 300 that sell “load” shares through brokers, according to Financial Research Corp.) UBS acknowledges that revenue sharing is “a factor in determining whether a fund company is placed in Tier 1,” but it adds that “such

payment is never the sole determinant.”

Likewise, Smith Barney’s Web site reveals that it allows about 37 favored fund families into its branch offices to promote their funds to brokers. Perhaps as a result these companies comprised “approximately 94.4%” of Smith Barney’s 2004 mutual-fund sales. Fund companies “that do not remit revenue-sharing payments typically will not be provided such access,” the Web disclosure adds.

Several other firms—including Morgan Stanley, Wachovia, and smaller rivals—also publish, on the Web and in client literature,

the names of the fund companies from which they take payments. Merrill Lynch simply says it requires all the fund families it sells—more than 100, according to a spokesman—to make revenue sharing payments, and that it has no preferred list. “Funds that do not enter into arrangements with Merrill Lynch are generally not offered to clients,” states a pamphlet sent to new clients that’s also available at ml.com.

One thing even the most candid brokerage firms don’t reveal is how much revenue sharing money they collect. At best, they’ll show their maximum levies. Smith Barney reports on its Web site that it generally charges fund families up to 0.09% annually of the value of the assets its clients hold in bond funds, and up to 0.12% per year of its clients’ stock and balanced-fund assets. You can use that information to approximate how much the firm will get from your investment.

Even if your broker offers good disclosure, you may get a better idea of what your fund is paying in the fund’s prospectus and SAI. The May 1 SAI for MFS’s Massachusetts Investors Trust says MFS generally pays brokerage firms up to 0.10% of the value of their annual sales of the fund, plus up to 0.05% of the annual value of client assets in the fund. MFS also says it may pay up to \$20 to offset “ticket charges.” These are fees a broker pays the brokerage firm to process fund orders. Like many of its peers, MFS says it may also foot the bill for broker conferences, seminars, training programs, entertainment, and travel. How much does that come to? MFS declines to say.

Sure, brokerage firms and fund companies are disclosing more about their financial dealings. Dig deep enough, though, and you may unearth more questions than answers. ■

What They Disclose

Here’s what some of the biggest firms make public on Web sites or in client literature about “revenue sharing” payments that get mutual funds on “preferred” lists:

MERRILL LYNCH

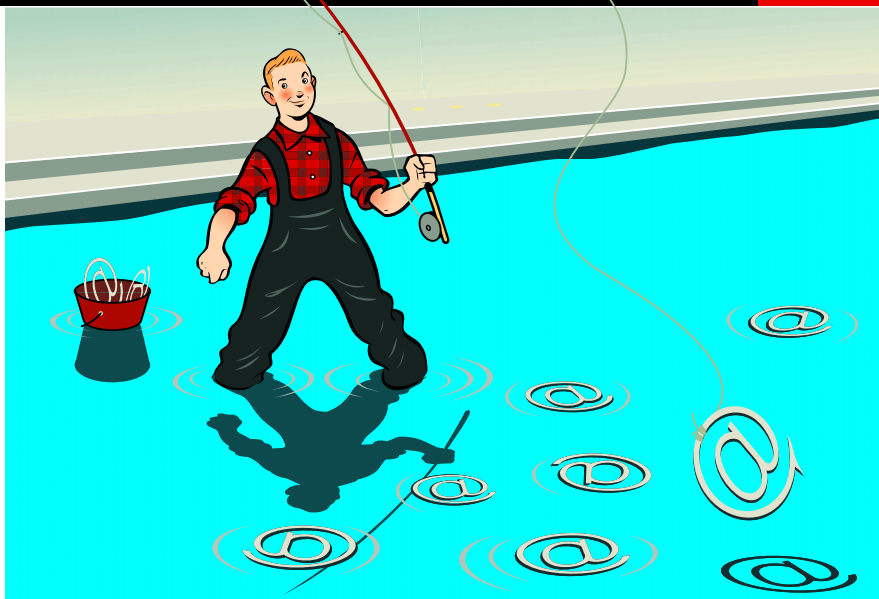
Has selling agreements with about 100 companies, charging them up to 0.25% on a portion of fund sales and up to 0.10% annually on a portion of total fund assets for marketing services. It also charges “load” funds up to either \$19 per client per fund or up to 0.13% of fund assets annually for administrative services.

MORGAN STANLEY

Charges each fund company it has a selling agreement with up to 0.20% on purchases and up to 0.05% per year of fund assets held at Morgan Stanley. Also charges up to \$19 per fund account annually for administrative services. Lists about 20 fund companies that pay to participate in events that brokers attend.

SMITH BARNEY

Breaks revenue-sharing fund families into two groups—one with access to its network of brokers and one without—and ranks the fund companies based on the total amount of revenue sharing they pay. Generally charges up to a maximum of 0.09% a year on clients’ bond fund assets and up to 0.12% a year on stock and balanced-fund assets.



How the Web 20 Whipped the Street

Out-of-favor companies helped it blow past the S&P 500. **BY TIMOTHY J. MULLANEY**

SINCE WE REVISED THE *BusinessWeek* Web 20 on Apr. 15, our portfolio of blue-chip Net stocks has gained 20%. That's almost triple the 6.9% rise of the Standard & Poor's 500-stock index and eases past the 15% hike in the Amex InteractiveWeek Internet index.

The 3-year-old Web 20 beat the market by holding on to out-of-favor companies. The biggest gain, 58% since April, came from ad agency aQuantive, which we stuck by as it struggled to absorb its 2004 acquisition of Razorfish. This year, Razorfish's creative savvy added to aQuantive's media buying and technological prowess grabbed more business from two dozen existing clients and nearly doubled first-half pretax profits. We also hung on to eBay, Amazon.com, and e-jeweler Blue Nile when e-tailers took an earnings hit. They rewarded us with strong second quarters. Google rose 48%, too.

But the fun part of keeping the Web 20 is learning from mistakes. We dropped online broker Ameritrade because of low

NASDAQ volume and DVD-by-mail provider Netflix because competition from Blockbuster's online service forced price cuts that sapped profits. Bummer. Netflix scored a fast turnaround as Blockbuster struggled, and Ameritrade got a takeover bid from rival E*Trade Financial, which it rejected. Netflix and Ameritrade both soared 80%. Meanwhile, newcomers InfoSpace, an online advertising play, InPhonic, whose Wirefly.com site lets consumers compare wireless phone plans, and realtor ZipRealty all tanked.

WELCOME BACK

IN OUR LATEST round of Web 20 adjustments, Infospace goes after two weak profit reports. We also cut Priceline.com, E*Trade, Chinese Web portal Sina, and Shopping.com, a price-comparison site being sold to eBay. We still like InPhonic and ZipRealty. InPhonic has had trouble digesting an acquisition, but CEO David Steinberg says it's closing duplicate facilities and ending unprofitable contracts. At 21 times 2005 estimates, with profits fore-

cast to grow 30% a year, it's a bet that we'll let ride. ZipRealty, set to top \$100 million in revenue and \$10 million in pro forma profits this year, is on track.

Among our new picks we're welcoming back Netflix. It's pricey at 64 times this year's estimates, but it has room to cut marketing costs and raise prices as Blockbuster's threat recedes. We think Expedia, which IAC/InterActiveCorp. just spun off, is a better travel play than Priceline. Merrill Lynch says Expedia will generate 2005 cash flow of \$740 million—putting its value around 10 times cash flow—despite problems at its Hotels.com unit.

IAC/InterActiveCorp owns everything from home shopping network HSN to Match.com. But watch two big growth sources: search engine Ask Jeeves and loan-referral service LendingTree. Jeeves will vie for \$4 billion in advertising that consultants from the Kelsey Group in San Francisco say will move online by 2008 from print Yellow Pages. IAC's financial-services unit tripled first-half profits by boosting lending and real-estate referrals.

We think the next big Net wave is reengineering health care, so we like Quality Systems, which makes software for doctors' offices. Even after jumping to 65 a share from 25, QSI trades at a p-e of 40—not bad, considering expected 30%-a-year profit growth. Our last pick is Audible, a purveyor of downloadable spoken media such as audio books. Analysts think 2006 profits will rise sixfold, making Audible a reasonable speculation even at 31 times 2006 estimates.

If there's a lesson in the Web 20's performance, it's this: Stick to your guns. This time, we're even more prepared to ride out the rough patches with companies that are fundamentally sound. ■

The New Web 20

aQuantive
Amazon.com
Audible
Blue Nile
Ctrip
CheckFree
Digital River
eBay
Expedia
Google
IAC/InterActiveCorp
Infosys
InPhonic
Netflix
Provide Commerce
Quality Systems
Shanda
Websense
Yahoo!
ZipRealty

New members are listed in red

BusinessWeek online To learn more about companies in the BW Web 20, visit businessweek.com/extras

Diving Into Watsu Massage

Underwater therapy is catching on at health resorts—but it's not for everyone. **BY LAUREN YOUNG**

AFTER A STRESSFUL six-hour flight to Tucson from New York with my husband and 3-month-old son in tow, I arrived at Canyon Ranch Health Resort a few months ago desperate for respite from weeks of sleep deprivation. The staff nurse I was assigned to took one look at the circles under my eyes and suggested that I try Watsu, an underwater massage.

I'd heard about Watsu—especially from the massage therapist I see at home—so I was curious to try it. Typically performed in a specially designed pool heated to body temperature, Watsu is a series of gentle movements and stretches intended to relax your body. It was invented in 1980 by Harold Dull, a Northern California massage therapist who offered the treatment in local hot springs. It incorporates techniques from zen shiatsu, an ancient Chinese pressure-point therapy believed to release blockages along the body's meridians where *chi*, or energy, flows.

The Watsu Institute, Dull's massage school in Middletown, Calif., has trained more than 5,000 practitioners. "Our goal is a world where everybody holds and floats each other in their arms," Dull says. That may take a while, but in the meantime, Watsu is popping up on more spa menus. In many cases, resorts are building dedicated Watsu pools.

Medical research shows that floating in warm water can be soothing, especially for acute and chronic pain. Warm water may have mental benefits, too. "Once you've been wrapped in water a bit, your mind starts to slow down," explains Keith McDaniel, a Watsu

therapist at Canyon Ranch in Tucson. "You're between dreaming and being awake, and all of the little things go out the window." Even better for me, Watsu is supposed to relieve stress and help you sleep.

I arrived at my session wearing a bathing suit, which most practitioners prefer that you do. I hopped into a pool about 14 feet in diameter with water that

was four feet deep and warm as a bath. Darcy Conner, the Watsu therapist, spent a few minutes talking to me about my new-mom lifestyle as well as my numerous ailments (pain in my lower back, neck, and knees, as well as insomnia).

Darcy cradled my body in her arms, holding my neck in her elbow and using her other hand to support my lower back. "Take a deep breath," she instructed. I kept my eyes closed during the next 50 minutes, as she pushed and pulled my body through the water, keeping my face above the surface. I felt as if I were dancing as my arms and legs flowed and waved in the water. Darcy gently massaged my entire body with a firm-but-soft touch, focusing on my back, neck, and shoulders. I emerged an hour later feeling mellow and dazed.

RAVE FROM MOM

I'D LIKE TO SAY I slept well after the treatment, but a baby is an obstacle. Rave reviews for Watsu, however, came from my mom, who was traveling with us. (It wouldn't be much of a vacation without a babysitter.) She was giddy after her session—"I've been reborn!"

Still, Watsu isn't recommended for people who are not used to being massaged. "It's a very specialized experience, one that requires a considerable amount of trust and maturity," says David Erlich, spa director at the Fairmont Sonoma Mission Inn & Spa in Sonoma, Calif. I didn't mind that a stranger was touching me, but having my ears move in and out of the water felt weird. I wish I had used the earplugs Darcy offered at the start of the session.

Most spas charge about \$150 per hour for Watsu. To learn more about it, watch a 10-minute orientation video with Dull at waba.edu. The site also provides a list of more than 100 Watsu practitioners nationwide. Lucky for me, my massage therapist is studying at the Watsu Institute. I'm counting down the days until she returns to New York, and we can take the plunge together. ■



GO WITH THE FLOW A session at Canyon Ranch in Tucson

The Perfect Second Car?

Scooters are scoring because of their mileage and maneuverability. **BY ADAM ASTON AND ROB DOYLE**

HIGH GAS PRICES AND traffic: They're the banes of a driver's existence. With neither about to improve anytime soon, there may be a small solution to these big problems. Scooters are an increasingly popular way to zip to errands, make parking a snap, and cut down on fuel costs.

Smaller and easier to use than their motorcycle cousins, scooters have long been popular in cities in Europe, Asia, and Latin America. But lately, the economics of scootering has helped them gain fans here in the U.S. With a final bill that won't exceed most credit-card limits, a scooter makes a great substitute for a station car or an ideal spare vehicle for errands.

That's why sales are soaring in urban hot spots such as Miami and New York as well as in the suburbs.

All scooters share a basic ease of operation that makes it easy even for non-motorcyclists to get on and go. Start with the motor, where automatic "twist-and-go" transmissions are the rule. With no clutch to fuss about, you simply twist the accelerator to take off. The brakes work just like a bicycle's, with a lever for each hand. Thanks to the positioning of the engine—directly in front of the rear wheel—scooters share a "step-through" design so you can sit upright, with your feet in front of you.

To get rolling, 50cc models such as Aprilia's spritely DiTech start at under \$3,000. In the middle of the pack, models such as Vespa's classic Granturismo or Honda's Big Ruckus have enough oomph



THE MAJESTY It can comfortably cruise on highways

to take two passengers to highway speeds and sell for over \$5,000. The most powerful class of touring-style rides—such as Yamaha's Majesty—comfortably cruise at highway passing speeds and can cost \$6,000 and above. Also expect to ante up for insurance—around \$400 per year for basic liability, fire, and theft—plus hel-



APRILIA SR50 DITECH

aprilia.com

PRICE: \$2,999

ENGINE: 49CC

MILEAGE/RANGE: 120 MPG/252 MILES

With its Spiderman paint job, the 198-lb. DiTech can make you feel like a superhero cutting through tight urban traffic. But with a relatively small 49cc power plant, its top speed is limited, making it ill-suited for highways.



HONDA BIG RUCKUS

powersports.honda.com

PRICE: \$5,499

ENGINE: 249CC

MILEAGE/RANGE: 60 MPG/192 MILES*

Its rugged design makes the Big Ruckus at home in the city and in the country, and the exposed frame offers a handy way to chain it up. Wherever you go, the edgy styling elicits lots of questions and stares.



Scooters are easy to operate, even for novice riders

revving, clean-running two-stroke 49cc power plant. A plus for this small engine is that in many states no special license is required on vehicles with engines under 50cc. The trade-off is a top speed south of 50 mph, so it's not the right choice for the highway. Rather the DiTech's sub-200-lb. weight and agile, short wheelbase make it a perfect runabout, easy

has crammed a modern 198cc deep-purring, four-stroke single-cylinder engine that can comfortably—and stylishly—carry two adults, along with a few bags of groceries hung off the handy hook just below the handlebars.

If the Vespa is almost too pretty to risk the inevitable dings and dents of urban riding, the perfect substitute is Honda's Big Ruckus. With no metal or plastic panels to mar, this stripped-down ruffian barely notices the occasional sidewalk scrape. Its exposed frame not only looks tough but offers a great way to lock the bike up. Even bouncing over potholed Manhattan cross streets, the Big Ruckus feels more stable at higher speeds, thanks to a 249cc engine and a longer-wheel base.

For trips beyond city limits, a new class of supersized scooters offers the feel of a motorcycle but with less hassle. With its 400cc engine and tall windshield, Yamaha's Majesty is a great choice if you prefer to skip the train station and cruise directly to work at 65 mph on the highway. Once in the city, at 436 lb., Majesty is less agile than, say, the nimble DiTech in grid-locked traffic. But the Majesty offers features the DiTech can't touch, such as an underseat trunk big enough to hold two helmets—or Chinese food for four. Next time you need to pick up a takeout order, why drive when you can scoot? ■

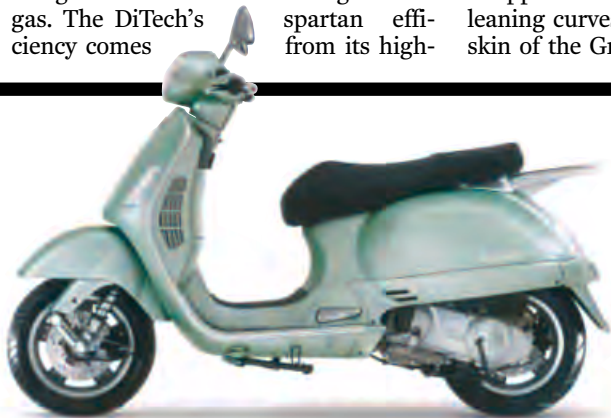
mets, and the cost of a motorcycle licensing course, if necessary.

Running costs are even more appealing. Larger scooters get up to 60 miles per gallon; some, such as Aprilia's DiTech, can go twice as far on a gallon of gas. The DiTech's spartan efficiency comes from its high-

to stash in small parking nooks at the deli or train station.

For longer journeys and more rugged urban byways, it's nice to have a little more power on tap. All the better if it's wrapped in a Vespa's timeless, forward leaning curves. Under the sculpted steel skin of the Granturismo, maker Piaggio

BusinessWeek online For more on the scooters below and suggestions for others in each category, go to businessweek.com/extras



VESPA GRANTURISMO

vespa.com

PRICE: \$5,499

ENGINE: 198CC

MILEAGE/RANGE: 60 MPG/156 MILES*

A mix of 1950s looks and 21st century components, the Granturismo offers *Roman Holiday* romance without all the black oily smoke. The updated classic relies on a quiet four-stroke 198cc engine that can comfortably hit highway speeds.



YAMAHA MAJESTY

yamaha-motor.com

PRICE: \$5,799

ENGINE: 400CC

MILEAGE/RANGE: 60 MPG/222 MILES*

It's not as nimble as the smaller scooters, but it's more stable and comfortable on long rides, even for two riders. Because of its size, the Majesty has ample underseat storage space—enough for two helmets.

*BW Estimates

EDITED BY TODDI GUTNER

HEALTH CARE

MAKING IT EASY TO SIZE UP A HOSPITAL

FEW DECISIONS ARE more important than what hospital you should choose to treat a serious illness. But most Web resources that rate the quality of care at hospitals dole out data through the sites of health plans or big employers.

That will change on Sept. 1, when Chicago-based Subimo opens **MyHealthcareAdvisor.com** to the public at \$12 for a six-month subscription. The company says the launch is a reaction to

a good review *BusinessWeek* gave Subimo's employer-distributed ratings in June, which produced thousands of requests for a public site. Subimo ranks hospitals from 1

to 100 on factors such as complication rates, cost, and use of technology. For many diseases, it also summarizes research so patients can explore new treatments. "As people pay more of their health-care costs, there's a place for tools that will help them manage their own care," says Subimo Vice-President Joe Donlan.

—Timothy J. Mullaney

TIME OFF

ANSEL ADAMS'S iconic black-and-white photographs of Yosemite National Park have graced millions of wall calendars. But the San Francisco photographer had many other subjects. Drawing on the

largest private collection of Adams's work, the Museum of Fine Arts in Boston (mfa.org) will showcase rarely seen shots of the artist's friends, New Mexican pueblos, and urban scenes in an exhibit through Dec. 31 of 180 photographs.

—Aaron Pressman



WINE

Château Main St.

A VISIT TO THE CALIFORNIA, Oregon, or Washington wine country used to require a trip out of town. No longer. A growing number of West Coast vintners are working in garages, warehouses, and houses in cities—either as a sideline to other jobs or because they prefer urban living. They purchase their grapes from growers and truck them in—and some are producing award-winning wines. "We choose to live where our market is," says Ben Smith, co-owner of Seattle's **Cadence Winery**.

A rising star in Washington winemaking, Cadence has won acclaim for its merlot and cabernet sauvignon blends (cadencewinery.com, 206 381-9507). **Jaffurs Wine Cellars** has a Santa Barbara (Calif.) facility that uses grapes from nearby vineyards to produce Rhône varietals like syrah and grenache (jaffurswine.com, 805 962-7003).

The wineries usually require appointments for tours or tastings, but you can drop by Jaffurs; **Rosenblum Cellars** in Alameda, Calif. (rosenblumcellars.com, 510 865-7007); and **Urban Wineworks** in Portland, Ore. (urbanwineworks.com, 503 226-9797). Traveling to these wineries may not be scenic, but the ride is shorter.

—Kristina Shevory

CAMERAS

A VIDEO CAM YOU CAN TOSS

PICTURE QUALITY is so-so, and it's a lot of cash for 20 minutes of video. But if you're caught without your camcorder or just don't want to haul it around, here's a passable option. Drugstore chain CVS sells a **recyclable, single-use digital one for \$30**, plus \$13 for transferring the video clips to a DVD. It's not good indoors. But it fits into a shirt pocket, it's simple to use, and its 20-minute limit is plenty for most home movies.

—Larry Armstrong



Personal Business Inside Wall Street



BY GENE G. MARCIAL

ALASKA AND AMERICAN ARE FLYING ABOVE THE AIRLINE STORMS.

ONE U.S. HOMEBUILDER ON A SOLID FOUNDATION IS TARRAGON.

ATHEROGENICS' NEW ARTERY DRUG COULD CATCH MERCK'S EYE.

Climbing: Alaska and AMR

REELING FROM MOUNTING FUEL COSTS, airline stocks are getting pummeled. The Street continues to see them as outcasts and heavily laden with risks. But David Strine of Bear Stearns, who is generally down on airlines, sees two exceptions to his dark view: He is upbeat about Alaska Air Group (ALK) and AMR (AMR), parent of American Airlines, and rates them "outperform." While other airlines have dived, both Alaska and AMR have risen: Alaska winged up from 26 in April to 33.61 on Aug. 24 and AMR from 10 to 13.55. (AMR was discussed in this column on Mar. 28 when it was at 8.) Strine says Alaska is trading at a discount to its peers and to its own historic multiples. Strine figures the stock will hit 40 by yearend. The airline posted second-quarter profits of 74¢ a share—higher than Strine's forecast of 65¢. Because of an improving revenue outlook, he has raised his earnings forecast

for 2005 from \$1.61 a share to \$1.90, and for 2006 from \$3.30 to \$3.50. He notes Alaska is well fixed for fuel, with 50% of its needs hedged for the rest of 2005 at \$30 a barrel, 41% in 2006 at \$40, and 20% in 2007 at \$45. Alaska serves more than 80 U.S. cities, plus Canada and Mexico. Ray Neidl of Calyon Securities rates Alaska "add," with a price target of 38. On AMR, Strine says it has a "substantially lower liquidity risk profile than its peers," given its \$3.9 billion cash stash and its "more moderate cash burn." AMR is expected to post a loss this year—but much less than 2004's loss of \$5.57 a share. Strine sees AMR earning 40¢ a share in 2006, up from his earlier estimate of 30¢. Recent fare hikes, increased bookings, and declining competition in some markets helped, he says. Goldman Sachs also rates AMR "outperform."

BEAR STEARNS'S AIRLINE BETS

STOCK	AUG. 24 PRICE	52-WEEK HIGH-LOW	YEAREND TARGET
ALASKA AIR (ALK)	33.61	35.72-19.72	40
AMERICAN (AMR)	13.55	14.95-6.34	17

Data: Bloomberg Financial Markets, Bear, Stearns & Co.

PHOTOGRAPH BY ETHAN HILL



Discover the en

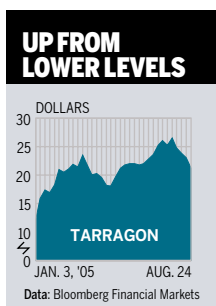
This itty bitsy Spider (SPY) goes a long way. In fact, each Spiders are an exchange traded fund (ETF), so they're tax risks. Ask your advisor for details. Because there's a

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Tarragon Is Raising the Roof

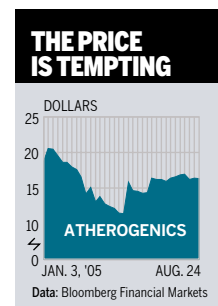
WHETHER OR NOT HOUSING SLOWS, Lee Schultheis is betting on a homebuilder, Tarragon (TARR), whose stock is up from 12 on Jan. 3 to 21. At 5.25 times his 2006 profit forecast of \$4 a share, this little-known stock is cheap, says Schultheis, chief strategist at Alternative Investment Partners, which owns shares. This builder of condominiums and town houses in high-density cities—mainly in Florida, Tennessee, Texas, and the Northeast—wouldn't be much affected if housing demand fell: Dwellings are scarce in these places, Schultheis says. In the second quarter, backlog sales (houses sold but not yet delivered) were up 76% from a year ago, to \$557 million, notes Schultheis. Tarragon, he says, is a "huge earnings-growth play in housing." His 2005 earnings estimate is \$2.65 a share, up from 2004's \$1.29. Barclays Bank owns nearly 2% of the stock.



AtheroGenics May Be a Buyout

AS BIG PHARMA CONTINUES to scout for biotechs developing major new drugs, John McCamant, editor of the *Medical Technology Stock Letter*, thinks AtheroGenics (AGIX) is "one of the more attractive acquisition candidates." Its lead product, AGI-1067, is an oral anti-inflammatory agent that has shown, in Phase 2 clinical trials, that it not only slows

atherosclerosis—a leading cause of coronary artery disease—but actually reverses it. A few years ago, Merck was close to buying Esperion Therapeutics for its intravenously applied cardiovascular drug—until Pfizer made a higher bid. Now, Merck may go after AtheroGenics, whose product is superior to Esperion's, says McCamant. Despite its current woes, he expects Merck will continue to pursue its goals in the billion-dollar anti-inflammation market. AtheroGenics will soon hold Phase 3 trials for AGI-1067. "Given the favorable data in earlier trials, we doubt potential suitors will wait for the next trial before making their move," he says. Pfizer certainly did not wait for Esperion's data, adds McCamant. "We know there is a lot of interest in AGI-1067." AtheroGenics is in serious talks with big drugmakers for a marketing pact for AGI-1067, he says, "but if the right suitor comes along, it may just sell the whole company." McCamant says AtheroGenics is worth 40. The stock hit 38 last September on excitement over its new drug but fizzled when Pfizer bought Esperion. It's now at 16. Joel Sendek of Lazard rates it a strong buy. Thomson First Call's consensus estimates a loss of \$2.23 a share in 2005 and a loss of \$1.51 in 2006. Merck and AtheroGenics declined comment. ■



BusinessWeek online Gene Marcial's Inside Wall Street is posted at businessweek.com/investor at 5 p.m. EST on the magazine's publication day, usually Thursdays.

Note: Unless otherwise noted, neither the sources cited in Inside Wall Street nor their firms hold positions in the stocks under discussion. Similarly, they have no investment banking or other financial relationships with them.

CHARTS BY ERIC HOFFMANN/BW

tire S&P 500 in every share.

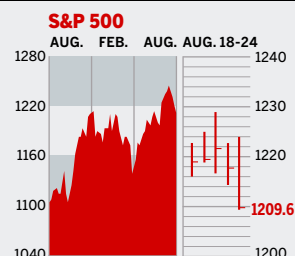
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Personal Business Figures of the Week

STOCKS



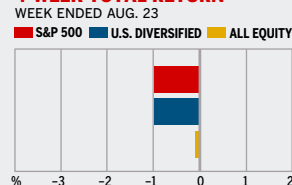
COMMENTARY

Oil prices soared to a new high of \$67 a barrel on Aug. 24, rocking the markets and prolonging a week-long slide. The Dow and the S&P 500 were down about 1% for the week. The Commerce Dept.'s report that orders for durable goods were lower than expected in July didn't help. At least the housing market was still robust, with July new-home sales hitting a new record.

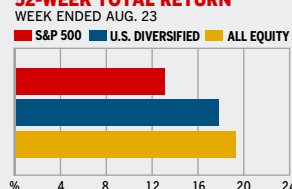
Data: Bloomberg Financial Markets, Reuters

MUTUAL FUNDS

4-WEEK TOTAL RETURN



52-WEEK TOTAL RETURN



Data: Standard & Poor's

U.S. MARKETS

	AUG. 24	WEEK	% CHANGE YEAR TO DATE	LAST 12 MONTHS
S&P 500	1209.6	-0.9	-0.2	10.3
Dow Jones Industrials	10,434.9	-1.1	-3.2	3.3
NASDAQ Composite	2128.9	-0.8	-2.1	15.9
S&P MidCap 400	702.4	-0.1	5.9	23.1
S&P SmallCap 600	341.1	-0.3	3.7	23.2
DJ Wilshire 5000	12,074.3	-0.7	1.0	13.4

SECTORS

	AUG. 24	WEEK	% CHANGE YEAR TO DATE	LAST 12 MONTHS
BusinessWeek 50*	720.1	-0.6	2.2	15.1
BW Info Tech 100**	361.4	-1.5	-3.2	12.8
S&P/BARRA Growth	579.2	-0.9	-0.5	8.1
S&P/BARRA Value	626.2	-0.9	0.1	12.5
S&P Energy	368.0	2.0	27.5	48.6
S&P Financials	393.6	-1.1	-4.2	2.8
S&P REIT	150.9	0.0	4.5	19.0
S&P Transportation	217.3	-1.0	-10.0	8.6
S&P Utilities	161.2	1.9	13.8	29.4
GSTI Internet	170.9	-2.5	-4.2	24.5
PSE Technology	794.7	-0.6	2.0	21.6

*Mar. 19, 1999=1000 **Feb. 7, 2000=1000

GLOBAL MARKETS

	AUG. 24	WEEK	% CHANGE YEAR TO DATE	LAST 12 MONTHS
S&P Euro Plus (U.S. Dollar)	1417.6	-0.7	1.5	26.2
London (FT-SE 100)	5275.2	-0.3	9.6	19.7
Paris (CAC 40)	4424.4	-0.3	15.8	23.1
Frankfurt (DAX)	4916.0	0.9	15.5	30.4
Tokyo (NIKKEI 225)	12,502.3	1.9	8.8	13.8
Hong Kong (Hang Seng)	14,873.9	-3.7	4.5	17.6
Toronto (S&P/TSX Composite)	10,509.7	0.1	13.7	26.4
Mexico City (IPC)	14,603.0	0.3	13.0	42.8

FUNDAMENTALS

	AUG. 23	WEEK AGO	YEAR AGO
S&P 500 Dividend Yield	2.05%	2.04%	1.73%
S&P 500 P/E Ratio (Trailing 12 mos.)	19.0	19.2	19.5
S&P 500 P/E Ratio (Next 12 mos.)*	15.2	15.3	16.0
First Call Earnings Revision*	0.50%	-0.10%	0.06%

*First Call Corp.

TECHNICAL INDICATORS

	AUG. 23	WEEK AGO	READING
S&P 500 200-day average	1194.4	1192.6	Positive
Stocks above 200-day average	62.0%	64.0%	Neutral
Options: Put/call ratio	0.83	0.79	Positive
Insiders: Vickers NYSE Sell/buy ratio	5.35	5.56	Negative

BEST-PERFORMING GROUPS

	LAST MONTH %		LAST 12 MONTHS %
Instrumentation	7.8	Oil & Gas Refining	102.0
Oil & Gas Refining	7.1	Oil & Gas Drilling	78.8
Educational Services	6.8	Oil & Gas Exploration	76.0
Oil & Gas Equipment	4.5	Fertilizers & Ag. Chems.	71.0
IT Consulting	4.5	Managed Health Care	68.9

WORST-PERFORMING GROUPS

	LAST MONTH %		LAST 12 MONTHS %
Homebuilding	-13.4	IT Consulting	-34.7
Specialty Appr. Retailers	-10.8	Insurance Brokers	-23.9
Comptr. Stge. & Perphs.	-9.8	Automobiles	-23.3
Airlines	-8.8	Paper Products	-19.2
Food Wholesalers	-8.6	Motorcycles	-17.5

EQUITY FUND CATEGORIES

4-WEEK TOTAL RETURN	%	52-WEEK TOTAL RETURN	%
LEADERS		LEADERS	
Japan	9.2	Latin America	62.1
Latin America	7.3	Natural Resources	53.4
Precious Metals	5.0	Diversified Emerg. Mkts.	43.3
Diversified Pacific/Asia	4.9	Europe	33.1
LAGGARDS		LAGGARDS	
Real Estate	-3.3	Domestic Hybrid	10.7
Small-cap Value	-1.7	Financial	11.5
Small-cap Blend	-1.6	Precious Metals	12.9
Small-cap Growth	-1.6	Large-cap Blend	13.2

EQUITY FUNDS

4-WEEK TOTAL RETURN	%	52-WEEK TOTAL RETURN	%
LEADERS		LEADERS	
Fidelity Japan	12.2	Guinness Atkn. Gl. Energy	84.8
Scudder Japanese Equity S	12.1	ProFunds Oil & Gas Inv.	78.9
ProFunds Ultra Japan Inv.	12.0	U.S. Gbl. Invs. Gl. Rscs.	75.9
Rydex Large Cap Japan	11.8	BlackRock Gl. Res. Inv. A	74.4
LAGGARDS		LAGGARDS	
Frontier MicroCap	-8.7	Ameritor Investment	-56.0
Alpine U.S. RI. Est. Eq. Y	-7.8	ProFds. USh. Mid Cap Inv.	-35.3
Grand Prix Super Core A	-7.8	ProFds. USh. Sm. Cap Inv.	-34.0
ProFunds. Real Est. Inv.	-7.4	Rydex Dyn. Vent. 100 H	-25.4

INTEREST RATES

KEY RATES

	AUG. 24	WEEK AGO	YEAR AGO
Money Market Funds	3.00%	2.97%	0.99%
90-Day Treasury Bills	3.49	3.51	1.53
2-Year Treasury Notes	3.98	4.05	2.45
10-Year Treasury Notes	4.17	4.27	4.27
30-Year Treasury Bonds	4.39	4.48	5.06
30-Year Fixed Mortgage †	5.71	5.79	5.76

†Barr'sQuote, Inc.

BLOOMBERG MUNI YIELD EQUIVALENTS

Taxable equivalent yields on AAA-rated, tax-exempt municipal bonds, assuming a 30% federal tax rate.

	10-YR. BOND	30-YR. BOND
General Obligations	3.68%	4.33%
Taxable Equivalent	5.26	6.19
Insured Revenue Bonds	3.84	4.50
Taxable Equivalent	5.49	6.43

THE WEEK AHEAD

FACTORY INVENTORIES Tuesday, Aug. 30, 10 a.m. EDT »

Manufacturing inventories most likely rose slightly in July, after June inventories dipped 0.1%.

GROSS DOMESTIC PRODUCT (REVISED) Wednesday, Aug. 31, 8:30 a.m., EDT » Even with revisions, growth in real gross domestic product is forecast to have held at the initially reported annual rate of 3.4% for the second quarter. That's the median forecast

of economists surveyed by Action Economics.

PERSONAL INCOME Thursday, Sept. 1, 8:30 a.m. EDT » In July, personal income probably posted a second straight monthly gain of 0.5%. At the same time, consumer expenditures most likely grew 0.9%, after a 0.8% jump in June.

PURCHASING MANAGERS' INDEX Thursday, Sept. 1, 10 a.m. EDT » The Institute for Supply

Management's factory activity index is expected to have edged up to 56.9% for August. For July, the index jumped up to 56.6%.

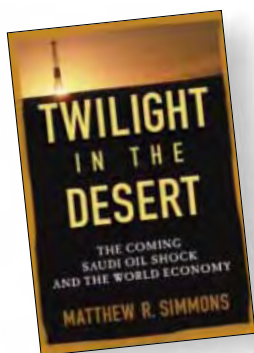
EMPLOYMENT Friday, Sept. 2, 8:30 a.m. EDT » August nonfarm payrolls most likely increased by 188,000, after a better-than-expected gain of 207,000 in July. Factories probably cut 4,000 jobs for a second straight month. The jobless rate very likely held at 5.0%.

The *BusinessWeek* production index edged down to 250.9 for the week ended Aug. 13, but stood 11.8% above the previous-year level. Before calculation of the four-week moving average, the index rose to 252.7

BusinessWeek online

For the BW50, more investment data, and the components of the production index visit www.businessweek.com/magazine/extra.htm

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IdeasBooks

Cradle of Civilization

1491 New Revelations of the Americas Before Columbus

By Charles C. Mann; Knopf; 465pp; \$30

Ah, the Amazon. The legendary rain forest spreads across much of South America and is home to about a third of the world's animal and plant species—and very few humans. Among the latter is the much studied Yanomamo tribe of central Brazil. These indigenous

people employ the age-old technique of slash-and-burn, using machetes and fire to clear jungle and expose a patch of land for farming. Then, as the fast-growing wilderness returns to claim the area, the Indians move away, following a rhythm developed over millennia. It's one of the few approaches that works, since the Amazon is so inhospitable to modern agriculture. Today, environmentalists are fighting not only to defend the rain forest against loggers, miners, and developers but also to safeguard this Indian way of life that's in harmony with nature.

We're all familiar with some version of this story. Problem is, it's almost entirely untrue, argues Charles C. Mann in his fascinating *1491: New Revelations of the Americas Before Columbus*. As Mann tells us, some anthropologists and archaeologists are convinced that the Yanomamo are relative newcomers to the region, refugees from more sophisticated societies farther south who sought safety in the rain forest from 17th-century European invaders and their diseases. Slash-and-burn, these scholars now say, is a relatively new invention, made possible only by the importation of steel blades from Europe. Even more astonishing, says Mann, a growing body of scholarly work suggests that much of the Amazon's diverse tree population is cultivated. With the jungle impenetrable, Indians devised an ingenious farming solution—planting trees right in the forest that would produce a cornucopia of fruits, nuts, and other edibles. Writes Mann: "They were



in the midst of terra-forming the Amazon when Columbus showed up and ruined everything."

Surprising, intriguing stories like this fill the pages of *1491*. A correspondent for *Science* and *The Atlantic Monthly*, Mann taps into recent scholarship that challenges the conventional wisdom about Indian culture,

How the Americas flourished before the Spanish conquest

society, and politics. The revisionists argue that the America Columbus encountered did not consist of a pristine landscape, home to a relatively small number of illiterate and innumerate

Indians living close to the land. Instead, vast civilizations had long flourished throughout the Americas, especially below the Rio Grande. The legendary Maya and Aztec civilizations, as well as the lesser-known Tiwanaku and Wari among others, built giant cities with magnificent public architecture and lively intellectual life.

For instance, in 1000 A.D., the city of Tiwanaku (now in Peru) may have had a population of 115,000, with a further 250,000 in the countryside. Paris wouldn't reach that scale for another five centuries. Trade flourished across North America. "It was, in the current view, a thriving, stunningly diverse place, a tumult of languages, trade, and culture, a region where tens of millions of people

loved and hated and worshiped as people do everywhere.”

Why has this history been hidden for so long? Blame diseases brought by Europeans, especially smallpox. Much of what explorers described as uninhabited had really been depopulated by disease.

Take the Inka. Francisco Pizarro and his 168 men and 62 horses came upon these people in the early 16th century. The Inka had constructed the largest empire in the world, bigger even than that of the Ming dynasty or the Ottomans. Yet as every school child knows, Pizarro's small force defeated them. He did this partly by exploiting factional rivalries among the Inka elite. Moreover, far less appreciated until recently, in five waves between 1524 and 1565, smallpox epidemics wiped out millions of Inka. Disease and

subjugation masked these vibrant Indian civilizations from future generations. That is, until now.

Many of these ideas are controversial. The scholars delving into Indian history are portrayed by Mann as a contentious, jealous bunch. And the author is hardly neutral: In each controversy he describes, Mann leans toward the side that makes Indian culture seem the most advanced. Moreover, parts of *1491* get bogged down in scientific descriptions and academic debates, and at times the story gets so dense it's hard to follow. But those are minor irritants. The real triumph of *1491* is to make a compelling case that Mesoamerica, much like the Fertile Crescent of the Middle East, was a cradle of civilization. Would-be textbook writers, take note. ■

—By Christopher Farrell

In Brief

The Big Giveaway

THE GREAT AMERICAN JOBS SCAM
Corporate Tax Dodging and the Myth of Job Creation

By Greg LeRoy; Berrett-Koehler; 290pp; \$24.95

For years, economists have pointed out how unproductive it is for states and localities to dole out tax breaks in order to influence the location of new plants or offices. It turns out that the practice is even more widespread—and damaging—than many critics have thought, according to *The Great American Jobs Scam: Corporate Tax Dodging and the Myth of Job Creation*. As is clear from the title, author Greg LeRoy is no impartial observer. He came to the subject after years of helping labor unions battle plant closings in the Midwest. Still, he has compiled a powerful compendium on a practice that has become standard operating procedure in recent decades.

Overall, states and cities today surrender some \$50 billion a year through a bewildering variety of corporate tax breaks that are at least nominally intended to lure development, according to several studies the book cites. The fiscal impact has hit nearly



every state, each of which now has an average of 30 different corporate-subsidy programs. Since 1980, this proliferation has helped to halve the share of state-tax revenues contributed by corporations—to just 5% today.

Most disturbing is evidence that states and cities are usually paying companies to do what they would have done anyway. Using both specific

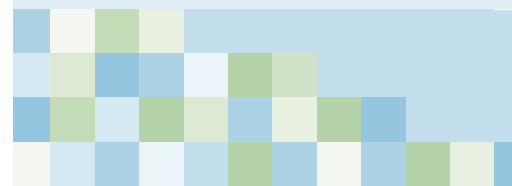
examples as well as broader studies, LeRoy shows how companies pit prospective sites against one another to get the best tax deal—then usually locate the new facilities in the region they had chosen in the first place. In fact, an estimated 96% of company tax breaks are such windfalls, according to work LeRoy cites by University of

Iowa professor Peter Fisher. To put it another way, officials are handing out millions to influence a minute number of job shifts. “I think of it like using dynamite to catch fish,” writes LeRoy.

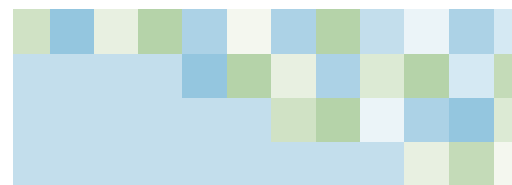
In the end, even the corporate beneficiaries take a hit. By undercutting the local infrastructure and skill base, they worsen the business climate of their new home, raising the cost of operating there. Of course, most companies have an out if subsequent tax dodgers run the place too far into the ground: They can always pull up stakes and seek greener pastures—and fresh tax breaks. ■

—By Aaron Bernstein

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IdeasViewpoint

BY JEFFREY E. GARTEN

B-Schools: Only a C+ in Ethics

Before I stepped down as dean of the Yale School of Management on June 30, the question I was most frequently asked by people outside the university was whether business schools were doing enough to instill the right values in their students. My answer: MBA programs have come a long way—but not nearly far enough. ¶ To be sure, I don't believe B-schools can

turn someone who is dishonest into a virtuous person. Enron's former chief financial officer, Andrew Fastow, would likely have turned out to be a bad apple no matter what he was taught in graduate school. Nor can an MBA program give someone the backbone to make a moral decision that risks the loss of a company's market value, as happened at Johnson & Johnson in the 1980s when Chief Executive James Burke courageously took Tylenol off the shelves because of safety scares. That kind of character must be developed much earlier than the typical age of a B-school student, about 27.

What business schools can do, however, is teach students how to apply value judgments when issues are not black and white. An obvious place to start: the admissions process. In evaluating applications, business schools should ask prospective students pointed questions in their essays and interviews about ethical turning points in their lives. Admissions officials should also plumb views about current moral controversies in the business world. When soliciting references, business schools should specifically request input on a candidate's character. The answers to all these questions should be evaluated with the same seriousness as grades and test scores.

BY THE TIME THEY GRADUATE, MBA students should be able to assess issues such as whether Hewlett-Packard Co.'s decision last month to make large-scale layoffs and sever pension programs fairly balanced the pressures for financial performance against obligations to loyal employees. They should have a view on whether Goldman, Sachs & Co.'s recent representation of both the New York Stock Exchange and Archipelago Holdings in a merger of the two, while holding financial stakes in both, constituted a conflict of interest or just an efficient consensual transaction. And these would-be leaders should be able to reason whether Microsoft Corp.—in its effort both to expand in China and also uphold Chinese law—is doing the right thing by helping Beijing prevent its citizens from researching concepts like democracy and human rights on the Internet. The idea is not for B-schools to provide simple right or wrong answers, but to

prepare these future executives to better assess the morally complex choices they will face during their careers.

Top business schools are wrestling with such issues in different ways. Harvard requires all students to take a course on leadership and ethics. Dartmouth concentrates on a broad agenda of extracurricular consciousness-raising activities in which issues such as Merck & Co.'s handling of Vioxx are debated by students, professors, and people who have been directly involved. Columbia has established a research institute devoted to ethical leadership. And the new dean at Yale, Joel M. Podolny, is revamping the curriculum with a series of seminars on business ethics at its center.

But if such institutions were to really get serious about ethics, each should undertake a combination of all these programs. In addition, new courses should be added beyond what is normally required. All students, for example, should gain a fundamental understanding of business law. They should study relevant fiction, such as Tom Wolfe's *The Bonfire of the Vanities*, which explores character better than case studies ever could. And, to acquire context, they should take courses in business history, dissecting such books as Ron Chernow's *The House of Morgan*.

The most prestigious faculty should lead the way in promoting ethics, or students will quickly infer the subject is not critical. But most professors specialize in disciplines like finance or operations, and have little training in teaching values. As a condition for tenure, therefore, the next generation of lifetime faculty should be required to pass a rigorous exam on such matters, graded by experts inside and outside the academy.

The decisions made by business leaders have a tremendous impact on shareholders, employees, customers, suppliers, communities, and the broader economy. So enhancing their ethical education at a formative stage is arguably the highest priority that business schools should have. Although many are working at it, none has yet fully risen to that challenge. ■

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ETHAN HILL

Schools need to do much more to help students make moral choices

Stop Playing Hide-and-Seek

MUTUAL FUND MANAGERS paying for spots on a brokerage's "preferred" list of funds. Investors buying recommended investments while disclosure of potential conflicts of interest involving their brokerage and mutual fund marketers is buried. A major brokerage house that sells virtually only those mutual fund families that pay it annual fees. If this all seems like déjà vu, you're right. These practices are called revenue-sharing arrangements, but it might be more apt to call them "pay-to-play lite" (page 96).

Make no mistake: It's perfectly legal for fund companies and broker/dealers to pen such deals, just as food companies pay for shelf space for their products at local supermarkets. But investors need to know when the financial interests of their brokerage firms diverge from their own—especially since the estimated \$2 billion a year spent on such revenue-sharing deals certainly raises the possibility that the balance could shift away from investors. Existing disclosure requirements are meager at best.

The investment industry for the most part complies with those requirements by making bare-bones information available—if investors are willing to hunt for it deep within rarely read prospectuses or obscure addenda. Rather than the uniform tables of sales charges and management fees now

required of fund companies, much of the revenue-sharing disclosure data is provided in language that is often vague or so dense that many fund buyers never digest it.

All this must change. A good place to start would be the mutual fund sales disclosure rules being considered by the Securities & Exchange Commission. These regulations,

Brokers and funds still cut deals, they just bury them in the fine print

proposed by former SEC Chairman William H. Donaldson before his departure earlier this year and still pending at the agency, deserve to move forward. They would require that before a client buys a fund, a brokerage must disclose how much it expects to collect in revenue sharing on that sale.

That would be an improvement over today's hide-and-seek disclosure. But even more information needs to be made

available. An excellent model is the data that Smith Barney provides customers on a voluntary basis. The firm not only discloses the maximum revenue-sharing fee it charges fund families, but also details the hefty percentage of its fund sales that went to 37 favored fund families in 2004 that paid it (94%) and ranks those fund families in order from those that paid the most to the least. That kind of data gives investors a clearer picture of the incentives Smith Barney has to pitch them particular funds and should be required of all broker/dealers.

To be sure, in the four years since the Wall Street scandals, Washington has made huge strides in requiring disclosures for investors about fees, sales practices, and conflicts of interest. But when it comes to mutual fund revenue sharing, the SEC still needs to let a little more sunshine in.

High Birthrates: A Mixed Blessing

ANYONE NOT YET convinced that the world is changing fast has only to look at the estimates recently released by the Population Reference Bureau (PRB). The relatively good news for the U.S. is that its population is projected to grow 42% to about 420 million people by 2050. That compares with a forecast population drop of 10% in Europe and a hefty 21% plunge in Japan over that period.

Much of the credit for America's vibrantly growing population goes to immigration, currently adding about 1.2 million to the populace annually. Moreover, many of these immigrants tend to be of child-bearing age, and most have

higher birthrates than native-born Americans. That's a positive for the economy because a larger populace, if sufficiently trained, creates a larger local market and more workers to produce more goods and services. Countries with stagnating population growth have to depend more heavily on productivity growth—a much chancier path to prosperity for mature economies. That's why Japan, an immigration-averse nation that just announced that its population would likely fall this year for the first time in history, is likely to have a hard time maintaining its economic stature as its population quickly ages.

Unfortunately, there's also a grim message from the PRB study: Much of today's population growth is occurring in parts of the world that can ill afford the increase. Africa will account for fully one-quarter of the earth's population rise this year. And if current trends continue, three African nations (the Democratic Republic of the Congo, Ethiopia, and Nigeria) will be among the world's 10 most populous by 2050—each bigger than Russia, Japan, or any European country. That's why bringing such poor countries into the world's economic mainstream is so essential. As China and India have shown, for even populous countries that embrace tough market reforms, no destiny need be preordained.